U.S. EPA Region 10

NPDES Permit Quality Review (PQR)

Washington

Draft January 2017

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National Pollutant Discharge Elimination System (NPDES) Permit Quality Reviews (PQRs) are an evaluation of a select set of NPDES permits to determine whether permits are developed in a manner consistent with applicable requirements established in the Clean Water Act (CWA) and NPDES regulations.[1] Through this review mechanism, EPA promotes national consistency, identifies successes in implementation of the NPDES program and identifies opportunities for improvement in the development of state-issued NPDES permits.

The PQR report covers background information about the state program including the program structure and the NPDES permit universe, which cover the types and numbers of NPDES permit issued by the state agency. The EPA uses the PQR to become acquainted with challenges the program is facing and new and novel state initiatives related to NPDES permitting. The result of the PQR report is a list of mandatory and recommended actions to improve the state's NPDES program.

The PQR process begins with EPA evaluating the permit universe and selecting permits to be included in the in-depth PQR review. Permits are selected to represent the permit universe in terms of distribution of facility type and major/minor status. Selected permits must also include permits that represent the national and regional topic areas. The PQR reviewed twenty-six *(26)* permits in total. The core review of individual permits included twenty-one (21) permits. Of the core permits, eleven (11) those individual permit permits were reviewed for national topic areas for nutrients (6) and pretreatment (3), and general permits were reviewed for stormwater (4) and pesticides (2). Four core permits were reviewed for regional topics areas for the Industrial Section and Energy Facility Site Evaluation Council (EFSEC) permitting. In addition, four of the core permit were reissued under a process Washington State Department of Ecology (Ecology) calls "permit reauthorization." Permits were selected based on permit issuance date and the review categories that they fulfilled. Tables 3 and 4 include a listing of permits reviewed under this PQR.

The EPA has established a variety of checklists to assist regional EPA staff in conducting PQR consistently across all states and territories. The EPA makes the PQR checklists and guidance documents available on EPA's PQR webpage. This PQR employed materials assembled by EPA Headquarters to assist regions with a standardized review process including checklists and companion documents.

The EPA evaluated the following major permit elements as part of the PQR process.

A. Basic Facility Information and Permit Application
B. Technology-based Effluent Limitations
C. Water Quality-Based Effluent Limitations
D. Monitoring and Reporting
E. Standard and Special Conditions

[1] EPA NPDES Permit Quality Review Standard Operating Procedure, < http://www.epa.gov/npdes/npdes-permit-quality-review-standard-operating-procedures>, (October 5, 2016)

F. Administrative Process
G. Administrative Record
H. National Topic Areas
I. Regional Topic Areas

Following review of the primary permit elements, the EPA identified action items necessary to ensure state-issued NPDES permits meet the requirement of federal NDPES regulations. The action items are aligned with the major permit elements above. The proposed action items are divided into three categories to identify the priority that should be placed on each item and facilitate discussions between Regions and states.

Critical Findings (Category One) - Most Significant: Proposed action items will address a current deficiency or noncompliance with respect to a federal regulation.

Recommended Actions (Category Two) - Recommended: Proposed action items will address a current deficiency with respect to EPA guidance or policy.

Suggested Practices (Category Three) - Suggested: Proposed action items are listed as recommendations to increase the effectiveness of the state's or Region's NPDES permit program.

The following table provides a summary of the number of action items identified under each element. Appendix D of the report provides a detailed description of each action item.

		Category			
Report Section	**Report Section Heading**	**1**	**2**	**3**	**Total**
V.A.	Basic Facility Information and Application	3		1	4
V.B.	Effluent Limitations Documentation	1		1	2
V.C.	Technology-based Effluent Limitations		3		3
V.C.	Water Quality-Based Effluent Limitations	1	3		4
V.D.	Monitoring and Reporting		1		1
V.E.	Standard and Special Conditions			1	1
V.F.	Administrative Process (including public notice)			1	1
V.H.1	Nutrients			2	2
V.H.3	Pretreatment	2	1		3
V.H.4	Pretreatment			1	1
V.H.4	Stormwater (Construction)		1		1
V.H.4	Stormwater (Industrial)		1		1
V.I	Reauthorization	1			1
VI.B	EFSEC	1			1
Total		**9**	**10**	**7**	**26**

EPA will track category 1 action items to ensure critical action items are addressed in a timely manner.

EPA's overall impression is that Ecology has a very strong NPDES program and that many of the findings appear to be related to permit specific incidences.

I. PQR BACKGROUND

National Pollutant Discharge Elimination System (NPDES) Permit Quality Reviews (PQRs) are an evaluation of a select set of NPDES permits to determine whether permits are developed in a manner consistent with applicable requirements established in the Clean Water Act (CWA) and NPDES regulations.[2] Through this review mechanism, EPA promotes national consistency, and identifies successes in implementation of the NPDES program and identifies opportunities for improvement in the development of NPDES permits.

EPA's review team conducted a review of the Washington NPDES permitting program during on-site visits to the Ecology at Headquarters in Lacey on August 29 through August 31, 2016. EPA's review team consisted of Karen Burgess (Team Lead), Michael Le, David Brick, Ashley Grompe, Misha Vakoc, Margaret McCauley, and Dru Keenan from EPA Region 10; David Hair, Elizabeth Ragnauth, Erin Flannery-Keith from EPA Headquarters; and Peter Sherman, a contractor from Tetra Tech, Incorporated.

The Washington PQR consisted of two components: permit reviews and special focus area reviews. The permit reviews focused on core permit quality and included a review of the permit application, permit, fact sheet, and any correspondence, reports or documents that provide the basis for the development of the permit conditions.

The core permit review involved the evaluation of selected permits and supporting materials using basic NPDES program criteria. Reviewers completed the core review by examining selected permits and supporting documentation, assessing these materials using standard PQR tools, and talking with permit writers regarding the permit development process. The core review focused on the Central Tenets[3] of the NPDES Permitting program to evaluate the Washington NPDES program. In addition, discussions between EPA and state staff addressed a range of topics including program status, the permitting process, responsibilities, organization, and staffing. Core topic area permit reviews are conducted to evaluate similar issues or types of permits in all states. The national topics reviewed in the Washington NPDES program were: nutrients, pesticide general permit, pretreatment, and stormwater.

Regional topic area reviews target regionally-specific permit types or particular aspects of permits. The regional topic areas selected by EPA Region 10 included: Industrial Permitting and the EFSEC. These reviews provide important information to Washington, EPA Region 10, EPA HQs and the public on specific program areas.

The PQR process begins with EPA evaluating the permit universe and selecting permits to be included in the in-depth PQR review. Selected permits are meant to represent the permit universe in terms of distribution of facility type and major/minor status. Selected permits must also include permits that represent the national and regional topic areas. Twenty-six (*26)*

[2] EPA Permit Quality Review, <http://www.epa.gov/npdes/npdes-permit-quality-review-standard-operating-procedures>, (Jan. 22, 2016)
[3] EPA NPDES Program Management and Oversight, < https://www.epa.gov/sites/production/files/2015-09/documents/tenets.pdf> (Dec. 18, 2016)

permits were reviewed as part of the PQR. Twenty-one (21) permits were reviewed for the core review. Of the core permits, eleven (11) permits were also reviewed for national topic areas for nutrients (6) and pretreatment (3), and general permits were reviewed for stormwater (4) and pesticides (2). Four (4) were reviewed for regional topics areas for the Industrial Section and EFSEC permitting. In addition, four of the core permit were reissued under a process Ecology calls "permit reauthorization" as discussed in Section III.I of this report. Permits were selected based on permit issuance date and the review categories that they fulfilled.

PQR Permit Selection

EPA downloaded permit data from Ecology's Permitting and Reporting Information System (PARIS) database on July 1, 2016 to evaluate and select permits for review under this PQR. EPA selected from among permits issued in approximately the 2 years prior to the schedule PQR. In addition, EPA attempted to select a distribution of permit from across permit types and regional offices. Table 2 shows the distribution of individual permits issued since May 1, 2014. The goal of this PQR was to review 5% of the total permit universe resulting in approximately 20 permits. Table 2 shows of the 97 permits issued since May 1, 2014, 21 individual permits were selected with an equal distribution across regional offices. Overall, 22% of individual permits issued between May 1, 2014 and July 1, 2016 were reviewed under this PQR. Emphasis was placed on the review of major individual permits with approximately 44% reviewed as compared to just less than 20% for minor individual permits during the period of interest.

Table 1. Individual Permit Universe by Type and Region

									Issue Date After	
Individual Permit Total by Region	ERO	CRO	NWRO	SWRO	Industrial	EFSEC	Total IP by Type	% by type	**5/1/2014**	% by type
Total Permits	53	63	114	144	25	2	401		97	
Major	10	8	17	19	17	2	73	18%	18	19%
Industrial NPDES IP	4	0	1	3	17	2	27	37%	9	50%
Municipal NPDES IP	6	8	16	16	0	0	46	63%	9	50%
Minor	43	55	97	124	8	0	327	82%	78	80%
Industrial NPDES IP	6	21	48	62	8	0	145	44%	29	37%
Municipal NPDES IP	37	34	49	62	0	0	182	56%	49	63%

Table 2. Individual Permit Universe for PQR Review by Type and Region

			Issue Date After		Review Goal.				
Individual Permit Total by Region	Total IP by Type	% by type	**5/1/2014**	% by type	Selected % of IP universe to review under PQR	Calculated Number of Ind. Permits	**Actual Planned for Review**	% of Issued after 5/1/2014 Permit Reviewed	Regional Distribution
Total Permits	401		97		5%	20.1	**21**	22%	
Major	73	18%	18	19%	5%	3.7			
Industrial	27	37%	9	50%	5%	1.4	**4**	44%	ERO, SW, IND, EFSEC
Municipal	46	63%	9	50%	5%	2.3	**4**	44%	1 PER REGION
Minor	327	82%	78	80%	5%	16.4			
Industrial	145	44%	29	37%	5%	7.3	**5**	17%	1/REGION, IND Sec.
Municipal	182	56%	49	63%	5%	9.1	**8**	16%	2 PER REGION

Table 3, 4 and 5 list the permits selected and reviewed under PQR. "Y" indicates the type of permit. Refer to Appendix B for URL links to selected permit and fact sheet documents. Active URL links under the Permit Name column in the Table 3 can be used to access the Ecology's Facility Summary information for each of the selected permits.

Table 3. Individual Permits Selected for PQR

			Core Review[1]				Notes	
PQR ID	**NPDES No.**	**Permit Name (URL to Facility Summary)**	**POTW**	**Non-POTW**	**Major**	**Minor**	**Region**	**Issue Date**
1	WA0000256	GEORGIA PACIFIC CONSUMER PRODUCTS (Camas) LLC		Y	Major		Industrial	11/2/2015
2	WA0000761	Tesoro Refining & Marketing Company LLC		Y	Major		Industrial	2/12/2015
3	WA0001091	GEORGIA PACIFIC WEST BELLINGHAM		Y	Major		NWRO	12/17/2014
4	WA0020991	Sunnyside POTW	Y		Major		CRO	12/9/2014
5	WA0044652	PULLMAN WWTP	Y		Major		ERO	5/15/2014
6	WA0024490	EVERETT STP	Y		Major		NWRO	9/30/2015
7	WA0023973	PORT ANGELES STP	Y		Major		SWRO	1/7/2016
8	WA0002861	Specialty Chemical Products LLC		Y		Minor	CRO	3/26/2015
9	WA0045527	BOISE CASCADE WOOD PRODUCTS, LLC. - ARDEN LUMBER		Y		Minor	ERO	3/13/2015
10	WA0003671	AGRIUM US INC KFO KENNEWICK FACILITY		Y		Minor	Industrial	12/15/2015
11	WA0002615	Vigor Shipyards Inc		Y		Minor	NWRO	7/9/2015

			Core Review[1]				Notes	
PQR ID	NPDES No.	Permit Name (URL to Facility Summary)	POTW	Non-POTW	Major	Minor	Region	Issue Date
12	WA0000728	Phillips 66 Company Tacoma Terminal North		Y		Minor	SWRO	8/5/2014
13	WA0022365	Okanogan POTW	Y			Minor	CRO	1/27/2015
14	WA0020885	Winthrop POTW	Y			Minor	CRO	6/30/2015
15	WA0044792	OAKESDALE STP	Y			Minor	ERO	2/4/2015
16	WA0044687	ROSALIA STP	Y			Minor	ERO	1/26/2016
17	WA0022454	FERNDALE STP	Y			Minor	NWRO	7/15/2014
18	WA0032077	Kitsap County Kingston WWTP	Y			Minor	NWRO	9/30/2015
19	WA0020249	CAMAS STP	Y			Minor	SWRO	9/25/2015
20	WA0037052	PORT TOWNSEND STP	Y			Minor	SWRO	11/13/2015
21	WA0025151	Energy Northwest Columbia Generating Station		Y	Major		EFSEC	9/30/2014

Table 4. Selected for National Topics and Regional Topics

			National Topics[2]				Regional Topics	
PQR ID	NPDES No.	Permit Name (URL to Facility Summary)	Nutrients	Pre-treatment	Pesticide GP	Storm Water	EFSEC	Industrial Section
1	WA0000256	GEORGIA PACIFIC CONSUMER PRODUCTS (Camas) LLC			General Permits	General Permits		Y
2	WA0000761	Tesoro Refining & Marketing Company LLC						Y
5	WA0044652	PULLMAN WWTP	Y	Non-delegated				
6	WA0024490	EVERETT STP	Y	Delegated				
7	WA0023973	PORT ANGELES STP		Delegated				
10	WA0003671	AGRIUM US INC KFO KENNEWICK FACILITY	Y					Y
21	WA0025151	Energy Northwest Columbia Generating Station					Y	

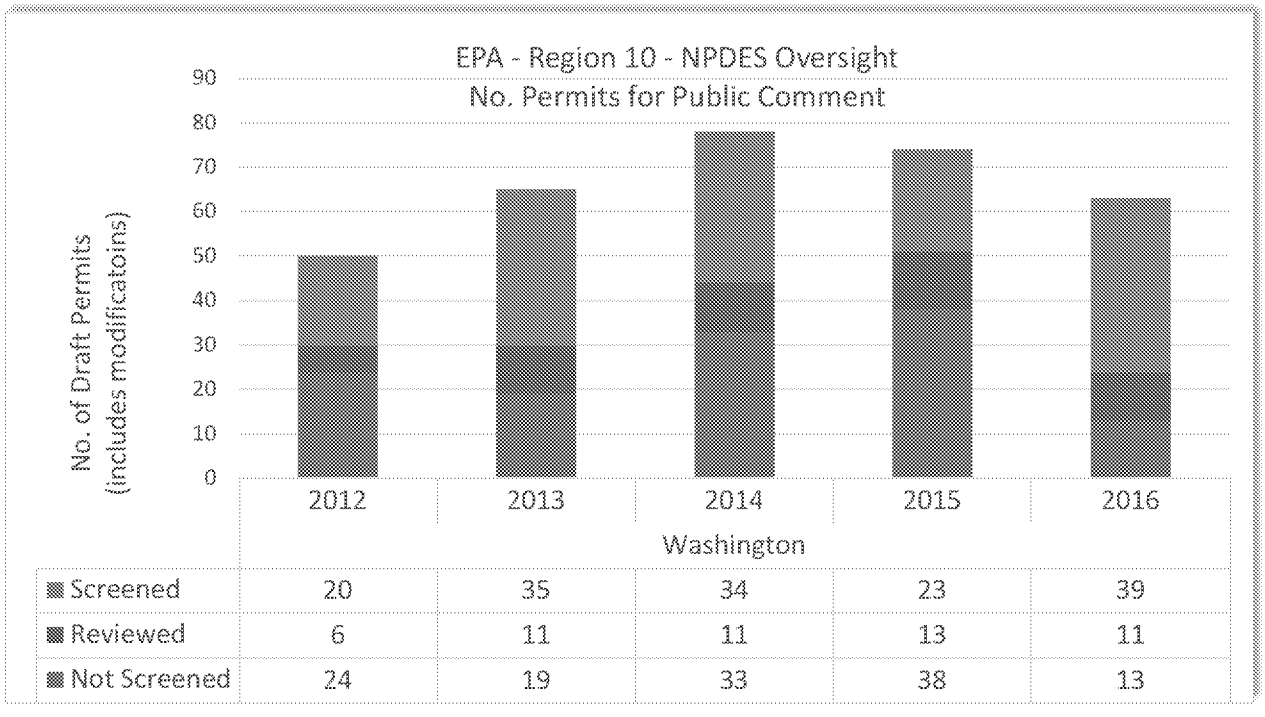
Table 5. General Permits Selected for PQR

Phase I	MS4 Phase I
Phase II Western	MS4 Phase II
Industrial Stormwater	Industrial Stormwater
Construction Stormwater	Construction Stormwater
Aquatic Pesticide Permits	Aquatic Plant and Algae Management

Regional Oversight Activity

In additional to periodic PQRs, the region engages in ongoing oversight of delegated states' programs. PQR augments routine oversight and engagement with Ecology's NPDES program. This section provides an overview of EPA's general review of draft permits over the past five years, see Figure 1, and highlights some of the more significant work EPA has engaged in with Ecology over the past two years. The region places importance on these real-time reviews because of the more immediate and direct influence these reviews can have on permit quality. These reviews may be initiated in response to direct concerns brought to EPA by interested stakeholders.

Figure 1. Oversight of Draft Permits 2012 through 2016



NOTE: Includes the public notice of modified, reauthorized individual permits and general permits.

Over the previous five years, the EPA reviewed a total of 52 draft permits and provided comments during the public comment period when necessary. An additional 152 draft permits were screened to determine if comments where needed, but comments were not provided either because none were needed or EPA had insufficient resources at the time to thoroughly review the permit and provide substantive comments.

Region 10 had significant engagement with Ecology on a number of permits for a variety of reasons as described below.

Energy Northwest, Columbia Generating Station – EPA Region 10 and EPA headquarters staff reviewed the draft permit at the request of National Marine Fisheries Service (NOAA-NMFS) and some Washington Tribes. Concerns focused around the cooling water intake structure (CWIS) and compliance with CWA 316(b) requirements to protected endangered and threated species. EPA's engagement in the permit resulted in additional permit conditions related to the CWIS at the facility.

City of Spokane, Liberty Lake Sewer District and Kaiser Aluminum Spokane – Region 10 reviewed the draft permit because of concerns related to the Spokane River TMDL and the discharge of PCB's.

Weyerhaeuser Longview – EPA Region 10 reviewed the draft permit at the request of Columbia Riverkeeper and some Washington Tribes. Concerns focused compliance with various NPDES regulations and the potential to discharge toxics.

Stormwater General Permits – EPA Region 10 puts a high priority on the review of general permits to affect a large number of regulated discharges. Generally, Ecology is a leader with regard to progress and effective stormwater permits. EPA Region 10 worked with Ecology to incorporate stormwater discharge requirements to impaired waters.

Confined Animal Feeding Operation (CAFO) General Permit – EPA Region 10 worked with Ecology during the preliminary draft stage of the permit to address consistency with federal CAFO rules. EPA reviewed and provided comments on the draft especially related to Ecology's approach to incorporating specific requirements for Nutrient Management Plans (NMPs) in lieu of public notice of NMPs.

II. STATE PROGRAM BACKGROUND

A. Program Structure

The Ecology headquarters office is located in Lacey, Washington not far from the State Capitol in Olympia, Washington.[4] Interestingly, Ecology was the first agency in the nation dedicated to environmental protection, founded in 1970. The agency is organized around environmental programs and regional offices reporting to the Ecology Director who is appointed by the

[4] Department of Ecology, About Us, <http://www.ecy.wa.gov/about.html> (October 9, 2016)

Governor. There are ten programs and four regional offices with some staff located in smaller field offices. Staff in regional offices are organized by program. The NPDES program is within the Water Quality Program with staff located both at the headquarters office and at each of the regional offices. NPDES-related work crosses over with other programs including the Environmental Assessment Program, which provides water quality modeling resources and ambient water quality data, and the Waste 2 Resources Program, which includes the Biosolids permitting program and the Industrial Section. The Industrial Section issues NPDES permits for several major industries in the state.

Ecology Programs

Mission statement provided for only those programs that have direct NPDES permit function.

AIR QUALITY

ENVIRONMENTAL ASSESSMENT

HAZARDOUS WASTE AND TOXICS REDUCTION

NUCLEAR WASTE

SHORELANDS AND ENVIRONMENTAL ASSISTANCE

SPILL PREVENTION, PREPAREDNESS, AND RESPONSE

TOXICS CLEANUP

WASTE 2 RESOURCES
Mission: To reduce waste through prevention and reuse; keep toxics out of the environment; and safely manage what remains. (Includes the **Industrial Section**, which issues NPDES permit for certain industrial sectors.)

WATER QUALITY
Mission: To protect and restore Washington's waters to sustain healthy watersheds and communities. Our work ensures that state waters support beneficial uses including recreational and business activities, supplies for clean drinking water, and the protection of fish, shellfish, wildlife, and public health.

WATER RESOURCES

Ecology Regional Office Locations[5]

Headquarters (Statewide)

Southwest Regional Office (SWRO)

Northwest Regional Office (NWRO)

Central Regional Office (CRO)

Eastern Regional Office (ERO)

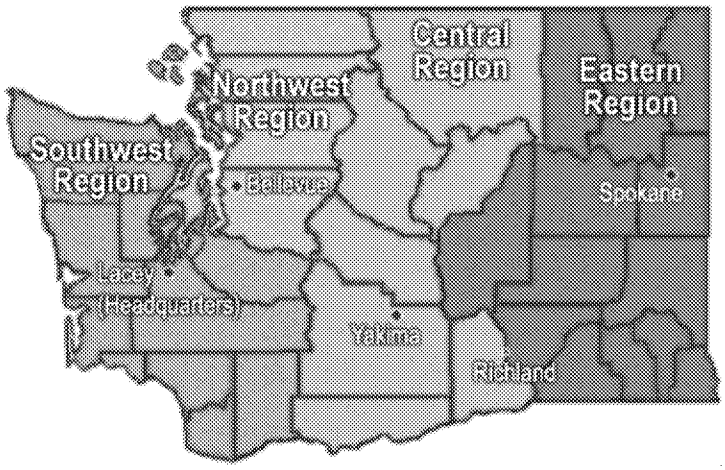


Figure 2. Ecology Regional Offices

The **Water Quality Program** has staff located at the Headquarters Office and in the Regional Offices. Water Quality Program staff are aligned with Clean Water Act programs including:

- Water Quality Standards,
- Water Quality Assessment,
- Total Maximum Daily Load,
- **NPDES,**
- Grants and Loans,
- Groundwater, and
- Ancillary programs such as Operator Certification, and Reclaimed Water Permitting.

The focus of this PQR is the **NPDES program** for permitting Point Source Pollution.[6] Permitting staff are located in both the HQ offices and each of the Regional Offices.

Responsibilities of HQ include:

All general permits are written and issued by in Ecology's HQ office with the exception of two more specific general permits. These two permit are the Fruit Packer, which is written and issued by CRO, and the Upland Fin-Fish Hatchery GP, which is written and issued by ERO. Administrative tasks (processing NOIs, DMRs, transfers, etc.) for the Construction and Industrial stormwater general permits are also headquarters functions. Individual permit shells, fact sheet shells, and the Permit Writers' Manual are maintained primarily by headquarters staff. Creating and maintaining IT tools is also a headquarters function. Thirty-seven of the most complex individual permits are written, managed, and inspected by headquarters staff.

Responsibility of the Regional offices includes performing field inspections for all permits, individual and general, except for the 37 complex individual permits (26 NPDES and 11 State

[5] Ecology, Director of Locations <http://www.ecy.wa.gov/directory.html> (October 9, 2016)
[6] Water Quality Program, Permits – Point Source Pollution, <http://www.ecy.wa.gov/programs/wq/permits/index.html> (October 9, 2016)

Waste Discharge permits). For most permits, except for Construction and Industrial stormwater, they also perform administrative tasks. The Fruit Packer permit is written in the Central Regional Office, and the Upland Fish Hatchery permit is written in the Eastern Regional Office. Individual permits, with the exception of the 37 complex permits mentioned above, are written and managed by the regional offices.

Permit Staffing

Additionally, some permits are managed outside of Ecology's Water Quality Program including:

- Ecology Waste 2 Resources Program – Industrial Section, which issues permit for specific larger industrial sectors.
- Ecology's Nuclear Waste Program - permits falling within the Hanford nuclear site are managed by the Nuclear Waste Program which is within Ecology, but separate from the Water Quality Program. PARIS shows that the Nuclear Waste Program currently administers four State Waste Discharge permits and two coverages under the Sand and Gravel GP.
- Energy Facility Site Evaluation Council – EFSEC is a separate state agency with an approved NPDES program. Two facilities are permitted EFSEC, Energy Northwest's Columbia Generating Station and the Grays Harbor Energy Center. EFSEC contracts with Ecology to implement aspects of their approved NPDES program include drafting permits and some aspects of permit administration.

Ecology indicated that there are 47 NPDES permit writers including 10 for general permits and 37 for individual permits.[7] The majority of permit writers are located in the regional offices, but most general permit writers are located at the HQ office. In addition to the permit writing staff, other staff support permit writers including water quality modelers (3 FTE total with 1 FTE dedicated and 2 FTE spread throughout multiple positions) and approximately 12 TMDLs staff.

In addition to permit writers, Ecology has significant staff in positions that support the NPDES program. There are 12 members of an internal Permit Data Quality workgroup whom provide administrative support for permits. Two positions at headquarters maintain statewide consistency by writing the Permit Writers' Manual, coordinating the Permit Writers' Workgroup and the Permit Data Quality Workgroup, and maintaining the business side of the PARIS permit database. Headquarters also has about 5 IT FTEs maintaining permit-related programs, including PARIS, the WQWebPortal for submitting DMRs and NOIs, and others.[8] There is also a general permit coordinator. Approximately 5-6 unit supervisors and at least one section manager have extensive permit writing experience and support staff with expertise when needed.

[7] Ecology reported on PQR Interview Questions, Part 1, August 16, 2016.
[8] Water Quality Permitting Portal Information Page (WQWebPortal), <http://www.ecy.wa.gov/programs/wq/permits/paris/portal.html> (October 9, 2016)

Permit Training

Ecology uses both formal and informal training to train new permit writers and to provide ongoing training to experience permit writers. All new permit writers attend EPA's Permit Writers' course to gain basic permit writing knowledge. Specific knowledge is gained through on-the-job experience. Internal workgroups are used to transfer knowledge, discuss issues and make decisions about permitting practices and policies. There is a workgroup for general permit writers and one for individual permit writers that meet quarterly or every other month.

Ecology maintains important documents and guidance for permit writers, some of which are publicly available from their website.[9] Additional resources are available to permit writing staff internally through their Permit Writer's SharePoint site. Ecology developed the Permit Writer's Manual in 1989.[10] The document has been revised over the years to keep pace with Ecology's current permitting practices. Updates can be spurred by new laws (state or federal), court decisions, technology, industries, or a variety of other factors. The Permit Writers' Manual guides writers through the process of writing a permit from highly technical considerations, like calculating effluent limits, to procedural requirements like public involvement. The Permit Writer's Manual brings together law, policy, and technical expertise into a single document that is available to the public to review.

The Permit Writer's Manual documents the process of writing a permit (mostly individual permits, but it does have a chapter for general permits). There are shells (i.e. templates) permit writers must use when writing permits and fact sheets. The Permit Writer's Workgroup revises the permit shell periodically based on recommendations brought to the workgroup by permit writers.

For general permits, each permit is assigned to a specific position, generally one permit per position (MS4, Construction SW, Sand & Gravel, etc.), but sometimes multiple permits (all the Aquatic Pesticide permits are assigned to the same writer). For some general permits, especially stormwater general permits, regional staff serve on a workgroup with the HQ permit writer through the permit development process. Permit writing positions are recruited and filled according to their ability to write the assigned permits. Individual permits are assigned to the region in which the facility is located, and thereafter assigned to permit writing staff by unit supervisors.

Data Systems

Ecology has numerous data systems to support the NPDES program and NPDES permit writing in general. The following data systems facilitate NDPES permit management and data availability internally and externally to the public. The Water Quality Program has 5 IT staff to maintain and update these data systems. NPDES permit data flows from Ecology's PARIS database to EPA's Integrated Compliance Information System (ICIS) database at the end of each

[9] Ecology, Permit Guidance and Tools, <http://www.ecy.wa.gov/programs/wq/permits/guidance.html> (October 9, 2016).
[10] Ecology Permit Writer's Manual, January 2015, <https://fortress.wa.gov/ecy/publications/summarypages/92109.html> (October 9, 2016).

day. These systems allow for electronic reporting of DMR and other permit required data directly by the permittee and should allow Ecology to comply with EPA's Electronic Reporting Rule by the December 2016 deadline. (Note: EPA will assess states' compliance with the e-reporting rule in mid-2017.)

PARIS – The basic permit database that contains information about 95% of the permits issued by Ecology (excepting, at the present time, CAFOs and aquatic pesticide permits). Includes basic permit data, submittals, and DMRs, and data from PARIS flows to EPA's ICIS database on a nightly basis.[11]

WQWebPortal – This is a collection of applications all bound together with a single authentication (sign-in) system. Permittees can use the WQWebPortal to apply for a limited set of permits and submit DMRs and other submittals for most permits (again, excepting CAFOs and aquatic pesticide permits).

Other Systems – Ecology maintains a letter mailing system connected to PARIS; a database for construction stormwater certification (CESCL); and a database for wastewater treatment plant operator certification.

Additional Ecology databases provide an array of data used by permit writers including Environmental Monitoring Data, EIM Environmental Data, Coastal Atlas Map, Facility Site Database, Pollutant Waters 303(d) Listing and others.[12]

Permitting Tools and Guidance

Ecology has developed and incorporated reliable tools and guidance into their permit writing processes. As mentioned, some of these tools are accessible on Ecology's website and are available to the public; these include the Permit Writer's Manual, the Criteria for Sewage Works Design (refer to as the "Orange Book"), Infiltration and Inflow Guidance, Mixing Zone Guidance, the PermitCalc Excel® Workbook used for evaluating reasonable potential and calculating effluent limitations.[13] Other guidance is available to permit writers through the Permit Writer's SharePoint site, including permit and fact sheet shells, and Permit Writer's Workgroup decisions and notes that document important permitting practices and policies.

Ecology has *"shells"* (i.e. templates) for individual industrial and municipal permits and fact sheets (2 permit shells and 2 fact sheet shells). These shells are maintained by a specialist at Headquarters with support from the Permit Writer's Workgroup. General permits and associated fact sheets are not generated using templates, though the General Permit Writer's workgroup is currently documenting the general permit process and may begin developing templates. Individual permits are written from shells or re-written from existing permits when reissued. Most general permit coverage drafts are now generated automatically using a web-based form (4,900 of 6,092 coverages, or approximately 80%). The draft coverages are

[11] Permit and Reporting Information System (PARIS), <http://www.ecy.wa.gov/programs/wq/permits/paris/paris.html> (October 9, 2016)
[12] Ecology, Water Quality Databases, <http://www.ecy.wa.gov/databases/wq.html> (October 9, 2016)
[13] Ecology, Permit Guidance, http://www.ecy.wa.gov/programs/wq/permits/guidance.html (Nov. 3, 2016)

reviewed for administrative completeness and issued on that basis. Ecology developed and uses the PermitCalc Excel® workbook. The workbook incorporates current information about water quality standards and allows the permit writer to calculate reasonable potential for each parameter by entering statistics derived from DMR data, which can be automatically calculated by PARIS.

Ecology's Water Quality Standards specify how mixing zones may be authorized in permits. The Permit Writer's Manual, Appendix C, provides guidance on calculating dilution in mixing zones. Specific models discussed include CORMIX, RiverPlume 6 (a worksheet within the PermitCalc workbook), and Visual Plumes. Permit writers select the appropriate model to use based on conditions at the site (marine vs. freshwater discharges, for instance). For stormwater permits, permit writers may model discharge flows using the Western Washington Hydrologic Model (WWHM), a continuous-flow model based on Hydrological Simulation Program--Fortran (HSPF, a USGS model). Permit writers have access to and rely heavily on modeling expertise within Ecology to perform modeling work and provide technical assistance. Modeling experts are also available to review and assess modeling done by contractors.

QA/QC Process

Ecology's QA/QC process is covered in Section 7 of the PWM, which describes the QA/QC process for individual permits. Permits are reviewed by the writer, their supervisor, and the section or regional manager who signs the permit, as well as a permit specialist in Headquarters.

An implementation team composed of the permit writer, regional permit managers/inspectors, and any other staff directly involved in the management of the permit reviews general permits. General permits are also review by HQ's Program Development Section before issuance. Peer review takes place within the section or regional office responsible for issuing the individual permit. Each office establishes their own peer review processes. Some distribute documents and request comments; others may provide oral presentations to peers. Prior to issuance both the unit supervisor and the section manager review the permit. Ecology does not use statewide QA/QC checklists for permits. However, many of the functions of a checklist are built into the individual permit shells. For example, each shell contains language that may or may not be used in the permit, and text that explains the conditions under which the language should be used. Additionally, individual sections may develop their own QA/QC checklists.

Individual permits undergo substantially similar QA/QC processes. There are variations depending on the peer review process established in the region or section. The general permit QA/QC process differs from the individual permit process. General permits rely more on review by their team. In addition, because all but two of them are written from the same section, the same unit supervisors and section manager provide management review.

Permit Files

The PARIS database is the central repository for major permit documents including public draft permits, fact sheets, response to comments documents and final draft permits for individual

permits. Ecology generally maintains a webpage for general permits. Working documents for general permits are usually maintained on Ecology's SharePoint site. Physical copies of documents are maintained in permit files, which are either in Headquarters or regional offices, depending which office administers the permit.

Permit related correspondence can be uploaded into the facility files in the PARIS database. Email is maintained in Ecology's Vault system – a statewide email backup system keyed to records retention. Letters to or from permittees are scanned and uploaded into PARIS. Physical copies are kept with the permit file located at the office that is responsible for administering the permit.

Permit related monitoring and reporting data are uploaded and available in the PARIS database. New permits require permittees to report DMRs and many submittals through the WQWebPortal system. Information submitted through that system is stored both in PARIS and in CROMERR, which is Ecology's EPA-compliant record archive tool. Physical documents are entered into PARIS either as scanned documents (submittals) or as individual data points (DMRs), and the documents are filed with the permit file.

The PARIS database includes violations, inspections, and enforcement modules; staff both enter data directly into these modules, and associate scanned PDFs with them (such as inspection reports or warning letters). Physical documents are stored in the paper file.

B. Universe and Permit Issuance

Permit Universe

Ecology provided information about their universe of NPDES permits with the PQR Interview Questions Part 1. The EPA PQR team independently reviewed the universe of the permits using data from the PARIS database in preparation for PQR. Table 4 shows the permit universe reported by Ecology.

Table 6. Individual and General Permit Universe

State's NPDES permit universe	5,939		
a. POTWs		c. Stormwater (number of permittees)	
i. Major	46	i. Municipal	163
ii. Non-major	181	ii. Industrial	1,583
iii. CSO	11	iii. Construction	2,246
b. Non-municipal (Industrial Facilities)		d. Non-stormwater general permits (number of permittees)	
i. Major	25		3,501
ii. Non-major	149	Includes general permits that regulate stormwater and non-stormwater discharges (e.g., boatyards, fruit packers).	
iii. CAFO	12	Data accurate as of:	8/15/2016

Note: Submitted to Ecology, PQR Part 1 Questions

The permit universe includes total of 20 general permits of which 5 were reviewed under PQR (bold text).

1. Aquatic Invasive Species Management
2. Aquatic Mosquito Control
3. Aquatic Noxious Weed Control
4. **Aquatic Plant and Algae Management**
5. Irrigation System Aquatic Weed Control
6. Zostera japonica Eelgrass Management
7. Fisheries Resource Management
8. Boatyard
9. Fresh Fruit Packing
10. Sand and Gravel
11. **Construction Stormwater**
12. **Industrial Stormwater**
13. **Municipal Stormwater Phase I**
14. **Municipal Stormwater Phase II (Western)**
15. Municipal Stormwater Phase II (Eastern)
16. Washington State Department of Transportation Municipal Stormwater General Permit
17. Upland Fin-Fish Hatcheries
18. Vessel Deconstruction
19. Water Treatment Plants
20. Concentrated Animal Feeding Operation (CAFO)

Ecology attempts to keep all general permits current. Ecology is also developing two new general permits that have not been issued yet (anticipated 2017 or 2018): Bridge/Ferry Dock Painting and Cleaning, and Wineries.

Notices of Intent (NOIs) are tracked differently depending on the permit. For the Construction, Industrial, Sand and Gravel, Water Treatment Plant, Upland Fin-Fishing, and Boatyard general permits, Ecology tracks NOIs through the online WQWebPortal and in the internal PARIS database. Individual permits and other general permits are tracked via PARIS and on paper.

Ecology reported the backlog in PQR Interview Questions, Part 1. The major permit backlog was reported at 16% with 12 out of 77 major permits being expired. The non-major permit backlog as reported at 4.5% with 261 out of 5,866 individual permit and coverages under general permits being expired.

Permit Development and Issuance Process

Application/Reapplication

Ecology's Permit Writer's Manual provides detailed information about the permit application process in Chapter 3. The chapter covers the process of permit application and background including categories of application, forms, and time frames for application and re-application. A flow chart showing the tasks for permit writers is included at the end of the chapter. Ecology

requires applications based on and almost identical to EPA's forms for discharge to surface waters. Applications are periodically updated. For reapplication, Ecology provides the application due date explicitly in the permit and also sends a reminding letter to the permittee 6 months to 1 year before the due date depending on permit type and regional office.

Applications are received by the regional office responsible for permit issuance. The assigned permit writer generally reviews the application for completeness. The Permit Writer's Manual provides useful information to assist permit writers with application reviews. Once the application is determined to be complete, a letter is sent to the permittee to acknowledge the application is complete. If a permittee has made "timely and sufficient application" for permit renewal, an expiring permit remains in effect until Ecology has either denied the application or issued a new permit [Washington Administrative Code WAC 173-220-180(5)].[14] Ecology's statute requires certain applications to be public noticed (PNOA) including for new or increased discharges.

Ecology noted during the PQR interview that incorrect application signature authority and incompleteness of required analytical data are the most common cause of applications being deemed incomplete. To address gaps in analytical data, Ecology updated the permit templates to be more explicit about reapplication and analytical data requirements, and has added an appendix to the permits to ensure required analytical detection levels are met.

For general permit reapplication, Ecology typically sends a notice letter to the permittee 6 to 9 months before a permit is set to expire. Reminder letters are generated through the WebDocs application in PARIS and are automatically added to the facility's electronic records within PARIS. For Notices of Intent (NOIs) for coverage, Ecology-developed NOI forms are used and may be revised as needed. Ecology requires electronic NOIs for the Construction General Permit and is moving toward e-NOIs for stormwater GPs for both renewals and new permits. Ecology provides detailed instructions for submitting e-NOIs on their website.[15]

Permit Development

The 536-page Permit Writer's Manual provides a solid foundation for Ecology permit writers and permits. The Permit Writer's Manual provides detailed instructions for permit development including chapters devoted to driving TBELs (Chapter 4), POTW TBELs (Chapter 5), WQBELs (Chapter 6), WQBELs to protect human health (Chapter 7), WQBELs to protect groundwater (Chapter 8), and effluent limits to protect aquatic sediment (Chapter 9). Other chapters provide instructions for incorporation of permit conditions for pretreatment requirements (Chapter 10), general conditions (Chapter 12), and monitoring guidelines (Chapter 13). The Permit Writer's Manual also includes information about fact sheets and administrative records, public involvement and the permit appeals process.

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[14] Department of Ecology, Washington Administrative Code (WAC) Chapter 173, (http://apps.leg.wa.gov/WAC/default.aspx?cite=173> (October 10, 2016)

[15] Ecology, Apply for your NOI on-line, <http://www.ecy.wa.gov/programs/wq/stormwater/construction/enoi.html>, (October 10, 2016).

During the PQR interview, Ecology and EPA discussed specific aspects of permit development including identifying pollutants of concern (POCs), development of TBELs, use of best professional judgement (BPJ) limits, development of WQBELs, establishing monitoring requirements for effluent, ambient waters, WET, and antibacksliding and antidegradation considerations, etc. The EPA found that the Permit Writer's Manual and permit development process ensures consistent consideration and application of these elements of the permit development process.

Once the permit writer completes the draft permit, Ecology must send the preliminary draft permit and fact sheet to the permittee for comment. Ecology will allow the Permittee 30 days to review the documents before the public notice of draft (PNOD) period begins. Ecology specifies a date by which comments are due and notifies the Permittee that the permit issuance process will not be delayed if the date is not met. Ecology notifies the Permittee that the draft permit conditions could change as a result of the public review process.

Public Process

The Public Notice of a Draft (PNOD) permit is required for all NPDES permits. Ecology publishes PNODs as legal classified advertisements at least once in a major paper. If a PNOA was done, the PNOD would be published in the same paper as the PNOA. PNODs are also be distributed by mail or email to "parties of record." Parties of record are those persons who responded to the PNOA or who have otherwise requested to be informed about the development of a specific permit. The comment period following a PNOD will normally be 30 days from the date of the latest notice. The comment period can be extended any time the permit section supervisor determines that an extension of the comment period will result in greater or more meaningful public input, or in any other circumstances the permit section supervisor deems appropriate. Ecology will notify parties of record when a comment period is extended and will add the new end date to the public calendar.

For certain permits, Ecology may hold public information meetings, workshops or hold a public hearing. According the Permit Writer's Manual, formal public hearings are held whenever the permit section supervisor deems that there is sufficient interest and a likelihood of meaningful public comment on a permit to warrant hearings. Ecology appoints a hearings officer to conduct the public hearing for an NPDES permit.

Ecology makes draft permits and final permits available through PARIS. A consolidation of responses to comments received on draft permits is included in an appendix to the fact sheet.

Permit Issuance

Ecology typically provides a period of time between the issuance date and the effective date of permits and will provide at least 30 days if comments on the draft permit were received. The effective date is to be set for the first of a month after the issuance date to avoid the practical problems with implementing monthly limits for periods of time less than a full month. Expiration dates are set five years from the effective date.

Permit Appeals
A wastewater discharge permit is an administrative action of the Department of Ecology and is subject to both state administrative hearings and court appeals. Appeals of a final permit are brought to the Pollutions Control Hearings Board (PCHB). The PCHB is an independent agency of the state of Washington, composed of three members appointed by the governor for terms of 6 years. The members are qualified by experience or training in environmental matters. At least one member is a lawyer, and not more than two members are of the same political party.

The Permit Writer's Manual outlines the general appeal process as:

1. The permit, order, or penalty is issued by the Department.
2. The recipient has 30 days to appeal to the PCHB with a copy served to Ecology.
3. Upon receipt of a correct appeal, the board will set a hearing date. The hearing date is usually 4 to 6 months from the time of appeal. The filing of an appeal does not stop the requirements of the permit or order. However, the appealing party may also request a stay of the requirements of the permit or order until the time the appeal is decided. The PCHB will ask Ecology to respond to the request for stay and may schedule a separate hearing on the request. The PCHB has the option of moving the appeal hearing date up and hearing both issues.
4. The hearing is held and a decision is issued.

During the PQR interview, Ecology and EPA discussed some instances and examples of past permit appeals.

Permit Administration
Individual permits are issued by the regional office responsible for the permit. Final permits are administered by the regional office and generally the permit writer remains involved in the permit throughout the life of the permit including review of discharge monitoring reports (DMR) data, review of permit required submissions, compliance inspections and involvement in enforcement actions.

During the PQR interview, Ecology and EPA discussed that administrative records were historically kept as hard copies in files. Increasingly, records are provided in electronic formats often available with the facility record in PARIS.

C. State-Specific Challenges

During the PQR interview, Ecology acknowledged that the most significant challenge on the horizon will be implementation of the new human health criteria. In particular, criteria for arsenic will be challenging because of the naturally high levels of arsenic in some surface waters. Ecology is seeking EPA assistance and guidance as they struggle to address permitting for very low human health criteria.

(Additions from Ecology)

D. Current State Initiatives

Ecology's permit writer's workgroups provide a continuous improvement mechanism for Ecology's permit and the permitting program in general. Ecology continues to make incremental improvements to their permitting processes and programs including embracing technology to increase effectiveness and efficiency.

Ecology's proposed CAFO permit expands to regulate CAFOs with the potential to discharge to groundwater through a state discharge permit. Ecology has worked for years with extensive public outreach to draft two separate CAFO permits to address discharges to both surface and/or groundwater.

(Additions from Ecology on any major new initiatives)

III. CORE REVIEW FINDINGS

The EPA has established a variety of checklists to assist regional EPA staff in conducting PQRs consistently across all states and territories. The EPA makes all the PQR checklists and guidance documents available on the PQR webpage.[16] The core permit reviews were done using the NPDES Permit Review Checklist (July 2013). A summary of the response to each checklist questions is provided in Appendix C: Summary Core Permit Review Checklist. A detailed discussion of EPA's findings during the PQR review is provided below in order of the topics in the NPDES PQR Checklist. The core review findings below include a discussion program strengths and findings.

A. Basic Facility Information and Permit Application

1. Facility Information

Basic facility information is necessary to properly establish permit conditions. For example, information regarding facility type, location, processes and other factors is required by NPDES permit application regulations (40 CFR 122.21). This information is essential for developing technically sound, complete, clear and enforceable permits. Similarly, fact sheets must include a description of the type of facility or activity subject to a draft permit. This information is addressed in Sections I and II of the NPDES PQR Checklist.

Program Strengths
Ecology's development and use of standardized permit and fact sheet shells ensures that the required facility information is included in either or both the permit and fact sheet. Basic permit information including issuance date, effective date, expiration date, 5-year permit or less and clear authorization-to-discharge information were found to be provided on all permits reviewed. Much of basic permit and facility information can be found on the permit cover page including the facility location, treatment type, industry type, and receiving water. The

[16] EPA, NPDES PQR SOP, <https://www.epa.gov/npdes/npdes-permit-quality-review-standard-operating-procedures>, (October 10, 2016).

factsheets contain more detail in information about the facility location, process description, outfall(s) and receiving water.

Findings and Recommendations
EPA relied on the electronic record of permits available in PARIS. For these permits, the actual signature is missing from the signature block and therefore the permit may be considered unsigned, (all permits). For electronic permits, the EPA suggests Ecology consider a substitute for the wet signature such as "/s/ (typewritten name)" format or include a scanned copy of the signature page with the posted permit.

2. Permit Application Requirements

Federal regulations at 40 CFR 122.21 and 122.22 specify application requirements for permittees seeking NPDES permits. Although federal forms are available, authorized states are also allowed to use their own forms provided they include all information required by the federal regulations. This portion of the review assesses whether appropriate, complete, and timely application information was received by the state and used in permit development. The EPA reviewed the available Individual permit application(s) in the permit files and responded to questions in Section III of the NPDES PQR Checklist.

Ecology makes application forms available from their website (http://www.ecy.wa.gov/programs/wq/permits/forms.html). Forms are based on EPA's forms and meet the federal requirements in terms of providing the necessary information. Ecology notifies permittees 6 months to 1 year in advance of the application being due as a reminder. Once the application is received, the application is reviewed for completeness. Permittees are notified when the application is deemed complete and Ecology provides public notice of the application as required by state regulation (WAC 173-220-110).

Program Strengths
It appears that in all instances the correct application was submitted based on the type of permit. The permit shell includes requirements that address permit re-application, increasing the likelihood that permittees will have all the necessary information and data available at the time of application in order to provide a complete application.

Findings and Recommendations
Reviewers found instances where the permit application appeared to be submitted late (3 instances), where applications appeared to be incomplete (5 instances) and/or analytical data was missing (4 instances) including insufficient priority pollutant scans (5 instances) and/or WET results (2 instances). In some cases, it appears the analytical detection levels were not sufficiently sensitive (2 instances).

Ecology should ensure all required data is included in the application before it is deemed complete. Any data submitted after the application has been deemed complete should be considered supplemental data and acknowledged as such in the fact sheet. Ecology should consider using a checklist in the application review process to ensure and document

completeness. Where supplemental data has been provided outside of the application, the fact sheet should explain the source of additional data used in the permit development process.

B. Effluent Limitations – General Elements

Certain elements related to effluent limitations in permits may be applicable. Section IV.A. of the PQR checklist addresses questions related to the permit documentation of effluent limitation development, anti-backsliding evaluation, antidegradation analysis, and compliance schedule inclusion.

Regulations at §124.56 specify the information that should be contained in the fact sheet. The fact sheet for the permit must describe whether the limitation is technology- or water quality-based, how the final limitations in the permit were determined and how those limitations meet both technology and water quality standards (including antidegradation) and, where appropriate, how an anti-backsliding analysis was applied to the final effluent limitations. Statutory and regulatory provisions prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limitations, permit conditions, or standards less stringent than those established in the previous permit. In the fact sheet, a statement comparing the current effluent limits with the previous permit's limits should be included.

Program Strengths
Ecology's fact sheet shell includes a section that provides direct comparisons of current and proposed effluent limits. This comparison table is very helpful to identify quickly changed limits without the need to refer to the previous permit and/or fact sheet.

Ecology has adequate guidance in place for Tier II Antidegradation Analyses.[17] This guidance primarily addresses antidegradation associated with facility expansions and increases in pollutant loading. Antidegradation analysis is also applicable when limits are made less stringent (backsliding) to show compliance with CWA 402(o)(3).

While the Permit Writer's Manual includes many references to the use of compliance schedules where final effluent limits cannot be immediately met, there is not a dedicated section with detailed guidance to ensure consistency with the requirement of 40 CFR 122.47. However, the permit template does provide some guidance for incorporating a compliance schedules in permits. Adequate guidance for an antibacksliding analysis is provided in Ecology's Permit Writer's Manual (Chapter 2).

Findings and Recommendations
As discussed, Ecology's permit and fact sheet shells are adequate and generally would direct permit writers to include these general elements. However, there were cases in the permits and fact sheets reviewed where the permit writer's treatment in some of these requirements was found lacking.

[17] Ecology, Antidegradation Webpage <http://www.ecy.wa.gov/programs/wq/swqs/antideg.html>), Water Quality Program Guidance Manual: Supplemental Guidance on Implementing Tier II Antidegradation, <https://fortress.wa.gov/ecy/publications/documents/1110073.pdf> (November 9, 2016)

There were instances where it was not clear if effluent limits were technology- or water quality-based (3), for which 2 of the 3 instances were cases where the permit was reauthorized and the fact sheet addendum included no information about the development of permit limits as discussed in Section III.I of this report. There were 6 instances where effluent limits were less stringent and in 4 of those instances, backsliding was not adequately discussed or justified. There were 4 instances where load limits where increased and only 2 of the 4 instances where antidegradation was discussed. There were 4 permits with compliance schedules and all but 1 included a final compliance date, therefore, additionally the permit did not met the requirements of 40 CFR 122.47.

Justification of limits, anti-backsliding, antidegradation, and incorporation of compliance schedules are often the subject of scrutiny during the public notice and comment period for draft permits. The EPA recommends extra attention, additional guidance, or fact sheet shell improvements to ensure the appropriate documentation of these elements into the administrative record.

C. Effluent Limitations - TBELs and WQBELs

NPDES regulations at 40 CFR 125.3(a) require that permitting authorities develop technology-based requirements where applicable. Permits, fact sheets and other supporting documentation for POTWs and non-POTWs were reviewed to assess whether technology based effluent limitations (TBELs) represent the minimum level of control that must be imposed in a permit.

1. TBELs for POTWs

POTWs must meet secondary or equivalent to secondary standards (including limits for BOD, TSS, pH, and percent pollutant removal), and must contain numeric limits for all of these parameters (or authorized alternatives) in accordance with the secondary treatment regulations at 40 CFR Part 133. A total of 12 (4 major and 8 minor) POTW permits were reviewed as part of the PQR. EPA reviewed the POTW permit and responded to the questions in Section IV.B of the NPDES PQR Checklist.

Program Strengths
POTW factsheets provided detailed descriptions of the facility, the treatment processes, outfall location, diffuser details and applicable technology based treatment standards. All of the POTW permits reviewed include numeric effluent limitations for 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH. In some cases, permits applied equivalent to secondary effluent limitations. In all instances, permits included effluent limitations in appropriate units and forms (i.e., concentration or mass; average weekly and average monthly).

Findings and Recommendations
EPA found one instance where more stringent standards were applied without clear rationale provided in the fact sheet, apparently carried over from the previous permit. Where equivalent to secondary effluent limitations were established, there was variability in the justification for

the effluent limits in the fact sheet (1 instance). Justification for equivalent to secondary limits should be provided in each permit even when carrying over limits from the previous permit(s).

The EPA recommends that the basis for alternate to secondary treatment standards be explained and justified in the fact sheet.

2. TBELs for Non-POTW Dischargers

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Available Technology Economically Achievable (BAT) or Best Conventional Pollutant Control Technology (BCT) for existing sources, and consistent with New Source Performance Standards (NSPS) for new sources. Where federal effluent limitations guidelines (ELGs) have been developed for a category of dischargers, the TBELs in a permit must be based on the application of these guidelines. If ELGs are not available, a permit must include requirements at least as stringent as BAT/BCT developed on a case-by-case using best professional judgment (BPJ) in accordance with the criteria outlined at 40 CFR 125.3(d).

Program Strengths

Nine of the core permits reviewed are for non-POTWs, and five of these facilities are subject to technology-based ELGs. The fact sheets for these non-POTW permits include a detailed description of the respective facilities and also indicate, where relevant, the ELG categorization, including whether the facility is an existing or a new source. The information presented in the fact sheets includes a description of the production processes, treatment and wastewater characterization for each facility. These fact sheets discuss the basis for technology-based standards, identify those limits, and include calculations in an appendix. For those facilities subject to ELGs, the technology-based limits in the permits reviewed are consistent with the applicable effluent guidelines and these limits are expressed in appropriate units.

Findings and Recommendations

One permit [WA0001091] uses a benchmark for turbidity (for a stormwater-driven discharge), but the basis for the benchmark is not entirely clear (the fact sheet indicates the applicable water quality criterion and background levels, but these do not appear to yield the benchmark). The fact sheet indicates that the benchmark is technically achievable for stormwater and that it is included in the permit to ensure that disturbed contaminated sediments are not discharged. Where such a benchmark is used to address concerns associated with a stormwater-driven discharge, the fact sheet should clearly explain the source and basis for the benchmark. This explanation should address why a limit is not needed and, where an applicable water quality criterion exists that differs from the benchmark, why the benchmark is different and how it is protective of water quality. The same permit includes effluent limits that are characterized as technology-based limits (i.e., based on BPJ since no ELG is applicable). The fact sheet indicates that treatment meets All Known Available and Reasonable Technology (AKART) requirements and also identifies relevant water quality criteria (which appear relevant for two of the discharge limits), however, the fact sheet does not discuss consideration of the factors in 40 CFR 125.3(d). Although some information explaining the limits is included in the fact sheet, the basis for these limits could be explained more clearly.

For another permit [WA0002861], only an Addendum to the Fact Sheet was identified (the permit was reauthorized). This addendum does not include a full description of the basis for permit limits but indicates that such limits are the same as the previous permit and are explained in the previous (i.e., 2009) fact sheet. EPA determined that the previous 2009 fact sheet was available in PARIS (link: SpecialtyChemicalFactsheet.pdf). The 2009 fact sheet provided general information about the facility and the basis for conditions in the 2009 permit. However, the fact sheet addendum did not provide sufficient evaluation of new information to form the basis for conditions in the re-issued permit. Refer to Section III.I of the report for the discussion about the permit reauthorization process. [Note: Since the Addendum to the Fact Sheet is not a complete fact sheet, was the previous (2009) fact sheet was in the on-site file? This seems to be a documentation issue as discussed here, and may be better located under Administrative Record, however, the ECY abbreviated reauthorization process is a broader issue raised in this report].

Some of the fact sheets for the core permits include an informative table that compares proposed effluent limits (and their general basis) with the limits in the previous permit. Consider including such a table in all fact sheets.

3. Water Quality-Based Effluent Limitations

The NPDES regulations at 40 CFR 122.44(d) require permits to include any requirements in addition to or more stringent than technology-based requirements where necessary to achieve state water quality standards, including narrative criteria for water quality. To establish such "water quality-based effluent limits" (WQBEL), the permitting authority must evaluate the proposed discharge and determine whether technology-based requirements are sufficiently stringent, and whether any pollutants or pollutant parameters could cause or contribute to an excursion above any applicable water quality standard.

The PQR for Ecology assessed the processes employed by permit writers and water quality modelers to implement these requirements. Specifically, the PQR reviewed permits, fact sheets, and other documents in the administrative record to evaluate how permit writers and water quality modelers:

- determined the appropriate water quality standards applicable to receiving waters,
- evaluated and characterized the effluent and receiving water including identifying pollutants of concern,
- determined critical conditions,
- incorporated information on ambient pollutant concentrations,
- assessed any dilution considerations,
- determined whether limits were necessary for pollutants of concern and, where necessary,
- calculated such limits or other permit conditions.

For impaired waters, the PQR also assessed whether and how permit writers consulted and developed limits consistent with the assumptions of applicable EPA-approved total maximum daily loads (TMDLs). EPA reviewed the selected permits and fact sheet and responded to questions in Section IV.C of the NPDES PQR Checklist.

Ecology's Permit Writer's Manual and PermitCalc were used consistently to evaluate the need for and development of WQBELs. The methodology used for Reasonable Potential Analysis (RPA) and limit development is based on EPA's Technical Support Document for Water Quality-based Toxics Control.

Program Strengths

Ecology provides permit writers with excellent technical resources. The Permit Writer's Manual and PermitCalc provide detailed guidance to permit writers ensuring consistency of permits. Additionally, the Permit Writer's Workgroup is a resource for ongoing technical guidance and support as new and/or complex issues arise. The fact sheet shells appear to provide an outline of all the regulatory information.

Findings and Recommendations

Some of the fact sheets reviewed no provide information with insufficient detail. In some instances, fact sheets did not indicate clearly how the pollutants of concern were identified (5 instances). EPA's Permit Writer's Manual, Section 6.1, provides additional information about the five categories of pollutants of concern for WQBEL development including:

1. pollutants with applicable TBELs,
2. pollutants with a WLA from a TMDL,
3. pollutants identified as needing WQBELs in the previous permit,
4. pollutants identified as present in the effluent through monitoring,
5. pollutants otherwise expected to be present in the discharge.

Some of the fact sheets reviewed did not specifically identify if the receiving water was impaired (4 instances).

Some of the fact sheets reviewed did not clearly indicate whether the discharge had reasonable potential to cause or contribute to an excursion above the applicable numeric water quality criterion for each pollutant of concern (5 instances including reauthorized permits) and reasonable potential analysis was not always documented (e.g. no RPA workbook calculations presented in the fact sheet) (6 instances). Where RPA calculations were provided, background data for the receiving water was not always used in the analysis (9 instances).

Fact sheets generally identified if receiving waters were impaired, if TMDLs have been completed and including WQBELs consistent with the applicable TMDLs. In some cases, permits reviewed did not adequately describe the designated uses (2) and TMDL status (4). In most cases, the fact sheet included ambient water quality information. A discussion about the identification of pollutants of concern was often lacking.

Ecology should add language to the fact sheet shell under the heading of "pollutants of concern" to more clearly identify which pollutants need evaluate for reasonable potential.

Ecology should state clearly the applicable TMDL and describe how the limits where derived from WLAs.

D. Monitoring and Reporting

NPDES regulations at 40 CFR 122.41(j) require permittees to periodically evaluate compliance with the effluent limitations established in their permits and provide the results to the permitting authority. Monitoring and reporting conditions require the permittee to conduct routine or episodic self-monitoring of permitted discharges and where applicable, internal processes, and report the analytical results to the permitting authority with information necessary to evaluate discharge characteristics and compliance status.

Specifically, 40 CFR 122.44(i) requires NPDES permits to establish, at minimum, annual monitoring for all limited parameters sufficient to assure compliance with permit limitations, including specific requirements for the types of information to be provided and the methods for the collection and analysis of such samples. In addition, 40 CFR 122.48 requires that permits specify the type, intervals, and frequency of monitoring sufficient to yield data which are representative of the monitored activity. The regulations at 40 CFR 122.44(i) also require reporting of monitoring results with a frequency dependent on the nature and effect of the discharge.

The EPA reviewed all the core permits and found that type, frequency and location of monitoring were adequate to assess compliance. The Permit Writer's Manual along with the permit shell provides strong guidance for permitting writers in establishing monitoring requirements. Whole effluent monitoring, for characterization purposes consistent with the permit application requirement, was explicitly required by the permits. All permits included an appendix detailing the required minimum levels for analysis which ensured compliance with 40 CFR 136 and EPA's sufficiently sensitive methods rule.

POTW permits required the necessary monitoring. All POTW permits required influent TSS and BOD monitoring to demonstrate compliance with percent removal requirements. Permits included limits for reporting SSOs and CSO permit required as a minimum annual reporting of CSO discharge events and CSO control status.

Non-POTW permits were found to include sufficient monitoring to assess compliance although the monitoring location was not always clear (3 instances).

Program Strengths
The Permit Writer's Manual and permit shells ensure consistency of monitoring requirements in permits.

Findings and Recommendations
None

E. Standard and Special Conditions

Federal regulations at 40 CFR 122.41 require that all NPDES permits, including NPDES general permits, contain an enumerated list of "standard" permit conditions. Further, the regulations at 40 CFR 122.42 require that NPDES permits for certain categories of dischargers must contain additional standard conditions. Permitting authorities must include these conditions in NPDES permits and may not alter or omit any standard condition, unless such alteration or omission results in a requirement more stringent than required by the federal regulations.

In addition to standard permit conditions, permits may also contain additional requirements that are unique to a particular permittee or discharger. These case-specific requirements are generally referred to as "special conditions." Special conditions might include requirements such as: additional monitoring or special studies such as pollutant management plan or a mercury minimization plan; best management practices [see 40 CFR 122.44(k)], or permit compliance schedules [see 40 CFR 122.47]. Where a permit contains special conditions, such conditions must be consistent with applicable regulations.

The EPA reviewed the core permits, but also relied on the permit shell to assess the incorporation of standard conditions in NPDES permits. Permit general condition G11 incorporates all provisions of 40 CFR 122.41 and 122.42 by reference. The permit shell also explicitly addresses the required standard conditions required by federal regulations. The standard condition language doesn't follow federal regulations exactly, so it wasn't always apparent if all were included. In particular, the duty to mitigate conditions were difficult to find in the permit, but appear to be included under S4.C (under the special conditions of the permit).

Program Strengths
Strong permit templates ensure consistent incorporation of required standard conditions. Additionally, the comprehensive provides permit language for important special conditions that can be incorporated as needed including, best management practices (BMPs), ambient sampling, mixing zone studies, whole effluent toxicity, Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE), pretreatment, CSO, SSO, engineering studies, inflow and infiltration reports, and others.

Findings and Recommendations
The EPA believes it would be helpful for standard conditions to align with the federal regulation at 40 CFR 122.41, applicable to all permits, and 122.42, applicable to certain categories of permits.

F. Administrative Process

The administrative process includes documenting the basis of all permit decisions (40 CFR 124.5 and 40 CFR 124.6); coordinating EPA and state review of the draft (or proposed) permit (40 CFR 123.44); providing public notice (40 CFR 124.10); conducting hearings if appropriate (40 CFR 124.11 and 40 CFR 124.12); responding to public comments (40 CFR 124.17); and, modifying a permit (if necessary) after issuance (40 124.5). EPA discussed each element of the

administrative process with Washington, and reviewed materials from the administrative process as they related to the core permit review.

The public notice of draft permits is available on Ecology's public notice website (https://fortress.wa.gov/ecy/publiccalendar/) as well as by request through various agency listserv(s). For the core permit review, the public notice provided in the PARIS data was reviewed. The actual public comment notice does not generally include the specific dates for the public comment period. In most cases, the draft permit was not reviewed during PQR because the Response to Comments are included as an appendix with the final fact sheet. Approximately 5 of the core permits were modified since issuance and all were accompanied by a fact sheet addendum to explain the basis and justification for the modifications. Modifications were done consistent with 40 CFR 122.62 and 122.63. With the exceptions of reauthorized permits, fact sheets were found to include supporting documentation for limits and permit conditions. The reauthorization permits did not include the required information of the fact sheet addendum.

Program Strengths
Ecology's Permit Writer's Manual, along with standardized templates for documents and letters associated with the administrative process, ensure reliable and consistent implementation throughout the state.

Findings and Recommendations
The EPA suggests that the beginning and end date on public notices be included in the public notices online version. Some notices only include the publication day, but not the end date.

G. Administrative Record and Documentation

The administrative record is the foundation that supports the NPDES permit. If EPA issues the permit, 40 CFR 124.9 identifies the required content of the administrative record for a draft permit and 40 CFR 124.18 identifies the requirements for a final permit. Authorized state programs should have equivalent documentation. The record should contain the necessary documentation to justify permit conditions. At a minimum, the administrative record for a permit should contain the permit application and supporting data; draft permit; fact sheet or statement of basis; all items cited in the statement of basis or fact sheet including calculations used to derive the permit limitations; meeting reports; correspondence between the applicant and regulatory personnel; all other items supporting the file; final response to comments; and, for new sources where EPA issues the permit, any environmental assessment, environmental impact statement, or finding of no significant impact.

Current regulations require that fact sheets include information regarding the type of facility or activity permitted, the type and quantity of pollutants discharged, the technical, statutory, and regulatory basis for permit conditions, the basis and calculations for effluent limits and conditions, the reasons for application of certain specific limits, rationales for variances or alternatives, contact information, and procedures for issuing the final permit. Generally, the administrative record includes the permit application, the draft permit, any fact sheet or

statement of basis, documents cited in the fact sheet or statement of basis, and other documents contained in the supporting file for the permit.

Permit records for POTWs and industrial facilities should contain comprehensive documentation of the development of all effluent limitations. Technology-based effluent limits should include assessment of applicable standards, data used in developing effluent limitations, and actual calculations used to develop effluent limitations. The procedures implemented for determining the need for water quality-based effluent limitations as well as the procedures explaining the basis for establishing, or for not establishing, water quality-based effluent limitations should be clear and straight forward. The permit writer should adequately document changes from the previous permit, ensure draft and final limitations match (unless the basis for a change is documented), and include all supporting documentation in the permit file.

Ecology's administrative records are generally very complete. The following table lists the headings in the POTW fact sheet shell. The industrial permit shell is equally comprehensive. Most of the fact sheets reviewed included the required information and additional information that was relevant to the permit.

Table 7. Typical Contents of Fact Sheet

I. Introduction	**IV. Monitoring Requirements**
II. Background Information	A. Wastewater monitoring
A. Facility description	B. Lab accreditation
History	C. Effluent limits which are near detection or quantitation levels
Collection system status	**V. Other Permit Conditions**
Treatment processes	A. Reporting and record keeping
Contract operations	B. Prevention of facility overloading
Solid wastes/Residual Solids	C. Operation and maintenance
Discharge outfall	D. Pretreatment
B. Description of the receiving water	Duty to enforce discharge prohibitions
C. Wastewater influent characterization	Federal and state pretreatment program requirements
D. Wastewater effluent characterization	Routine identification and reporting of industrial users
E. Summary of compliance with previous permit issued	Industrial user survey update
F. State environmental policy act (SEPA) compliance	Requirements for performing an industrial user survey
III. Proposed Permit Limits	Support by Ecology for developing partial pretreatment program by POTW
A. Design criteria	E. Solid wastes
B. Technology-based effluent limits	F. Spill plan
C. Surface water quality-based effluent limits	G. Effluent mixing study
Numerical criteria for the protection of aquatic life and recreation	H. Combined sewer overflows
Numerical criteria for the protection of human health	CSO Reduction Plan/Long-Term Control Plan and CSO Reduction Plan Amendments
Narrative criteria	Nine Minimum Controls

Antibacksliding/Antidegradation	CSO Monitoring
Combined Sewer Overflows	Annual CSO Report
Mixing zones	Post-Construction Monitoring Program
D. Designated uses and surface water quality criteria	I. Outfall evaluation
E. Water quality impairments	J. Compliance schedule
F. Evaluation of surface water quality-based effluent limits for narrative criteria	K. General conditions
G. Evaluation of surface water quality-based effluent limits for numeric criteria	**VI. Permit Issuance Procedures**
Reasonable Potential Analysis	A. Permit modifications
H. Human health	B. Proposed permit issuance
I. Sediment quality	**VII. References for Text and Appendices**
J. Whole effluent toxicity	Appendix A--Public Involvement Information
K. Groundwater quality limits	Appendix B --Your Right to Appeal
L. Comparison of effluent limits with the previous permit issued OR permit modified on _____	Appendix C--Glossary
	Appendix D--Technical Calculations
	Appendix E--Response to Comments

Program Strengths

Ecology provides comprehensive shells to guide the permit writer with standard permit language and prompts for information that can or must be included in the administrative records.

Findings and Recommendations

The administrative record was lacking for most reauthorized permits. Where new information was provided over a permit term, Ecology must evaluate and analyze the information and present it as justification for the re-issued permit. Review of the reauthorized permit indicated that in most instances no information was provided in the fact sheet addendum to support reissuance. EPA's concerns about the permit reauthorization process are addressed in Section III.I of this report.

The EPA reviewed the Permit Writer's Manual to determine if permit writers followed the guidance with regard to the reauthorization of permits. Ecology's Permit Writer's Manual does not specifically address the reauthorization process.

H. National Topic Areas

National topic areas are aspects of the NPDES permit program that warrant review based on the specific requirements applicable to the selected topic areas. These topic areas have been determined to be important on a national scale. National topic areas are reviewed for all state PQRs. The national topics areas are: nutrients, pesticides, pretreatment and stormwater.

1. Nutrients

For more than a decade, both nitrogen and phosphorus pollution has consistently ranked as one of the top causes of degradation of surface waters in the U.S. Since 1998, EPA has worked at reducing the levels and impacts of nutrient pollution. A key part in this effort has been the support EPA has provided to States to encourage the development, adoption and

implementation of numeric nutrient criteria as part of their water quality standards (see the EPA's *National Strategy for the Development of Regional Nutrient Criteria*). In a 2011 memo to the EPA regions titled *Working in Partnerships with States to Address Nitrogen and Phosphorus Pollution through use of a Framework for State Nutrient Reductions*, the Agency announced a framework for managing nitrogen and phosphorus pollution that, in part, relies on the use of NPDES permits to reduce nutrient loading in targeted or priority watersheds. This call to action was reiterated in a memo released in 2016 titled, *Renewed Call to Action to Reduce Nutrient Pollution and Support for Incremental Actions to Protect Water Quality and Public Health,* which encourages states and stakeholders to intensify their efforts to reduce nutrient pollution.

Program Strengths

Ecology developed a nutrient control plan and submitted it to EPA in 2004. "Washington's nutrient control program combines prevention, carefully chosen trigger criteria, and comprehensive clean-up strategies to ensure that the beneficial uses of the state's waters will remain protected from the effects of excess nutrients."[18]

Findings and Recommendations

Washington does not have numeric water quality standards for nitrogen or phosphorous. It does have guidance values for phosphorous and a narrative criterion for aesthetics. The guidance values for phosphorous, Washington has action levels for lakes that vary by lake ecoregion and ambient total P range (WAC 173-201A-230). The action levels are not standards, but rather 'action values' that prompt the development of a TMDL or a lake-specific nutrient criterion. Washington does have numeric criteria for response variables – dissolved oxygen, and pH.

Ecology does not have rules or policies to provide translations of these narrative criteria into numeric values for use in permitting or listing a waterbody on the 303(d) list. Ecology is considering developing nutrient specific permitting guidance consistent with more recent guidance and studies (e.g. *Review of USEPA Methods for setting Water Quality-Based Effluent Limits for Nutrients, June 2014)*. Ecology Permit Writers' Manual (Section 3.1.2) does discuss the far-field impacts of nutrients, particularly phosphorus

While Washington does not have numeric criteria for nitrogen or phosphorous, Ecology is exploring a performance-based approach to setting site-specific criteria (SSC). This would place a procedure for developing SSC into the water quality standards. The procedure can then be used to develop watershed/stream reach criteria for nitrogen, phophorous, or other numeric criteria including pH and dissolved oxygen.

To assess how nutrients are addressed in Ecology's permitting program, the EPA reviewed six permits for facilities that discharge directly or indirectly to waters that are or are likely to be impaired for nutrients. Of the six permits reviewed, one permit was for an industrial facility,

[18] Ecology, Summary of Washington's Nutrient Control Plan, <http://www.ecy.wa.gov/programs/wq/swqs/nutrient.html> (November 25, 2016)

and five were for POTWs. The permits were reviewed for nutrient monitoring and effluent limitations.

One permit, Agrium – Kennewick, has a nutrient limit for nitrate based on the TBEL for fertilizer manufactuers. The limit was expressed in pounds per day. Reasonable Potential was conducted for nitrogen but not for phosphorous. No reasonable potential was found for nitrogen. This facility discharges into the Columbia River, which is on the 303(d) list under Category 3 for dissolved oxygen and pH. No other permits contained an effluent limit for nitrogen or phosphorous and only one other permit, Ferndale WWTP, had reasonable potential analysis conducted for nitrogen and none was found. One permit did have an effluent limit for CBOD based on a TMDL wasteload allocation for CBOD to address dissolved oxygen deficiency. Two permits identified that the receiving waters had known dissolved oxygen and pH problems; however, Ecology did not include effluent limits for nitrogen or phosphorous in the permits, nor was a reasonable potential analysis conducted for nitrogen or phosphorous.

All but one permit, Sunnyside, contained monitoring requirements for nitrogen, phosphorous, or both. In most cases, the basis for the monitoring requirements was the anticipation of TMDLs to address nutrient problems (dissolved oxygen, pH, bacteria).

EPA recommends Ecology:

- Conduct a reasonable potential analysis for nutrients if the type of facility is known to have discharges that contain nitrogen or phosphorous or the receiving waters are known to have nutrient impairments. All of the facilities reviewed discharged to waters impaired for dissolved oxygen, pH, bacteria, or some combination of all three.

- Continue to include monitoring requirements for phosphorous and nitrogen in permits for such facilities where the receiving waters are known to have nutrient impairments. Ecology is to be commended for including the monitoring requirements for nitrogen and phosphorous in their permits.

The regulations at 40 CFR 122.44(d)(1)(ii) state " *when determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.* "

For nutrients, the RPA can be either qualitative or quantitative. For a qualitative RPA, a permit writer could consider:

- The type of facility and likelihood that discharge contains N or P.

- Discharges from similar facilities, even if you decided you would not actually use those data for a quantitative RPA.

- Available dilution where concentration is a concern. (e.g., It may be necessary to include limits where there is little or no dilution available.)
- Receiving water impaired for nutrient-related impacts
- Vulnerability of waterbody to impacts from nutrient pollution using some factors such as light availability, residence time, temperature, etc.

Section 3.2 of EPA's TSD provides some further discussion of considerations for a permit writer in conducting a qualitative reasonable potential analysis.

The regulations at 40 CFR 122.44(l)(1)(iii) provide authority to include monitoring requirements in permits to yield data for development of the permit in the next permit cycle. Being proactive in collecting effluent data and receiving water data, as needed, allows for the permit writer to be better informed about nutrient problems associated with certain types of facilities, provide data for RPA in subsequent permit cycles, and aid in the development and implementation of nutrient TMDLs.

2. Pesticides

On October 31, 2011, the EPA issued a final NPDES *Pesticide General Permit (PGP) for Discharges from the Application of Pesticides*. This action was in response to a 2009 decision by the U.S. Sixth Circuit Court of Appeals (National Cotton Council of America v. EPA, 553 F.3d 927 (6th Circuit 2009)) in which the court vacated EPA's 2006 Final Rule on Aquatic Pesticides (71 FR 68483, November 27, 2006) and found that point source discharges of biological pesticides and chemical pesticides that leave a residue into waters of the U.S. were pollutants under the CWA. The federal PGP applies where the EPA is the permitting authority. Approximately 40 authorized state NPDES authorities have issued state pesticide general permits as of November 2011.

Background

On January 7, 2009, the Sixth Circuit vacated the EPA's 2006 NPDES Pesticides Rule under a plain language reading of the CWA. National Cotton Council of America v. EPA, 553 F.3d 927 (6th Circuit 2009). The Court held that the CWA unambiguously includes "biological pesticides" and "chemical pesticides" with residuals within its definition of "pollutant." In response to this decision, on April 9, 2009, EPA requested a two-year stay of the mandate to provide the Agency time to develop general permits, to assist NPDES-authorized states to develop their NPDES permits, and to provide outreach and education to the regulated community. On June 8, 2009, the Sixth Circuit granted EPA the two-year stay of the mandate. On March 28, 2011, the U.S. Court of Appeals for the Sixth Circuit granted EPA's request for an extension to allow more time for pesticide operators to obtain permits for pesticide discharges into U.S. waters. The court's decision extended the deadline for when permits would be required from April 9, 2011 to October 31, 2011.

As a result of the Court's decision to vacate the 2006 NPDES Pesticides Rule, NPDES permits are required for discharges of biological pesticides and of chemical pesticides that leave a residue

to waters of the United States. EPA proposed a draft pesticide general permit on June 4, 2010 to cover certain discharges resulting from pesticide applications. EPA Regional offices and state NPDES authorities may issue additional general permits or individual permits if needed.

For this PQR, R10 reviewed the Aquatic Invasive Species Management Permit, which was issued on August 17, 2016. It became effective on September 16, 2016 and will expire on September 15, 2021. EPA's review of this permit was to ensure its consistency with NPDES program requirements.

Program Strengths

Prior to EPA developing its pesticide general permit, Washington had already issued permits for pesticide applications to water within the state. Beginning as early as 1995 Ecology was required by the Legislature to issue permits to allow aquatic pesticide use for noxious weed control. Ecology has recently updated many of its aquatic pesticide permits and they presently have seven different aquatic pesticide permits that cover invasive species management, mosquitos, noxious weeds, plant and algae control, fish control, and pesticide applications made to irrigation systems and clam beds.[19] These different permits are designed to ensure safe and appropriate pesticide applications to very diverse use settings. In addition, Ecology provides individual aquatic application permit whenever appropriate. Ecology's approach to providing multiple aquatic permits that include specific application requirements and monitoring requirements based on the type of application is one of the program's strengths. Most states provide one general aquatic permit and the EPA provides one Pesticide General Permit while Ecology offers seven aquatic permits that are tailored to the specific environment and conditions required for those different areas.

Ecology's Aquatic Invasive Species Permit covers pesticide treatments to control nonnative invasive aquatic animals and nonnative invasive marine algae. Products covered by this permit include algaecides, herbicides, insecticides, molluscicides, piscicides and other chemicals to control these organisms in both the marine and freshwater environments. The permits cover pest control throughout surface waters of the state of Washington and marine waters up to 12-miles offshore. It does not provide coverage on Federal lands and in Indian Country within the borders of the state.

Ecology's permit is available to any state government entity, non-governmental organization or private applicator. Generally, the permittee must submit a Notice of Intent (NOI) at least 38 days prior to the planned treatment and they must publish two notices in local newspapers they are seeking coverage under the permit and Ecology will open a 30-day public comment period on the proposed discharge. Ecology may include additional restrictions based on comments received prior to permitting the proposed treatment.

[19] Ecology, Aquatic Pesticide Permits, <http://www.ecy.wa.gov/programs/Wq/pesticides/index.html> (November 25, 2016)

Ecology's permit allows short-term exceedance of the criteria but the permit requires these activities must be restricted in a manner that will minimize water quality degradation. The permittee is not allowed to further degrade a 303(d) listed water body for any parameter.

The permit authorizes only the following products: sodium chloride, potassium chloride, chlorine, acetic acid, calcium hydroxide/oxide, rotenone, potassium permanganate, endothall, sodium carbonate, methoprene, chelated copper compounds, and pseudomonas fluorescens strain. The permit includes additional measures to protect the public, limit the impact on recreation activities and protect salmon, steelhead and bull trout populations.

The permit includes requirements to use the lowest effective amount of pesticide and limits the range/size of the treatment. The permittee must advertise upcoming treatments using the internet, mail, newsletter or handbill. The shoreline, public access areas at beaches, docks and marinas and entrances to the treated area must be posted with clearly visible signs.

Pre-treatment and post-treatment sampling for each pesticide product applied is required. Annual reporting is required and includes permittee name, treatment dates, location of treatments and amount of product applied at each location. The permit also requires notification whenever a permittee violates or is unable to comply with permit conditions.

Washington Department of Ecology has developed an extensive and effective aquatic permitting program. The permits are written for the specific environmental conditions where the pesticide application takes place. The permit conditions are geared to the size of the treatment and include extensive best management practices be implemented, pre- and post-monitoring, and reporting of the timing, amount and location of pesticide applications. The Aquatic Invasive Species Management General Permit is clear to understand and follow and ensures appropriate measures are taken to protect the environment even when pesticides are applied. EPA has no further recommendations or suggestions for improvements to this permit.

Findings and Recommendations
None

3. Pretreatment

The general pretreatment regulations (40 CFR 403) establish responsibilities of federal, state, and local government, industry and the public to implement pretreatment standards to control pollutants from industrial users which may cause pass through or interfere with POTW treatment processes or which may contaminate sewage sludge.

Background
The goal of this pretreatment program review was to assess the status of the pretreatment program in Washington, as well as assess specific language in POTW NPDES permits. With respect to NPDES permits, focus was placed on the following regulatory requirements for pretreatment activities and pretreatment programs:

- 40 CFR 122.42(b) (POTW requirements to notify Director of new pollutants or change in discharge);

- 40 CFR 122.44(j) (Pretreatment Programs for POTWs);
- 40 CFR 403.8 (Pretreatment Program Requirements: Development and Implementation by POTW);
- 40 CFR 403.9 (POTW Pretreatment Program and/or Authorization to revise Pretreatment Standards: Submission for Approval);
- 40 CFR 403.12(i) (Annual POTW Reports); and
- 40 CFR 403.18 (Modification of POTW Pretreatment Program).

The PQR also summarizes the following: program oversight, which includes the number of audits and inspections conducted; number of significant industrial users (SIUs) in approved pretreatment programs; number of categorical industrial users (CIUs) discharging to municipalities that do not have approved pretreatment programs; and the status of implementation of changes to the general pretreatment regulations at 40 CFR part 403 adopted on October 14, 2005 (known as the streamlining rule).

Washington received authorization from the EPA to implement the pretreatment program in September 30, 1986. Ecology oversees 14 approved POTW programs with approximately 283 significant industrial users (SIUs). Out of 283 SIUs, 130 are categorical industrial users (CIUs). In addition, Ecology issues 157 state waste discharge permits to SIUs in non-approved pretreatment programs, of which 42 are CIUs. Ecology has a hybrid pretreatment program. Even though Ecology authorized 14 pretreatment programs, Ecology continues to issue state waste discharge permits to SIUs that discharge to approved and unapproved pretreatment programs.

The Attorney General's statement dated April 29, 1986 stated that the State of Washington developed and implemented the pretreatment program before the federal government did in the Clean Water Act. RCW 90.48.160 requires permits for any "commercial or industrial operation" which discharges wastewater to POTWs. Furthermore, RCW 90.48.260 gives Ecology broad authority to incorporate into the state pretreatment program those elements of the EPA program established under the Clean Water Act.

Ecology's website provides the following pretreatment tools:[20]

- Guidance Manual: Using NEWLLqq.xlsm to Develop Local Discharge Limitations Local limits spreadsheet instructions.
- Local Limits Spreadsheet
- Permit Writers Manual - Chapter X: Pretreatment
- Guidance Manual for Performing an Industrial User Survey
- Guidance Manual for Developing Local Discharge Limits

[20] Ecology webpage, Permit Guidance, Pretreatment Tools, <http://www.ecy.wa.gov/programs/wq/permits/guidance.html> (November 25, 2016)

In addition, Ecology's PARIS database provides some information about delegated programs include pretreatment annual reports.

Neither Ecology's website nor the PARIS database does provide easily accessible information about delegated programs. EPA's ICIS database indicates the following municipalities have approved pretreatment programs.

Table 8. POTW with Approved Pretreatment Programs

NPDES ID	Permit Name	Effective Date	Expiration Date	Pretreatment Program Approved Date	Control Authority NPDES ID	Pretreat Prog Req'd Indicator Desc
WA0039624	Chambers Creek STP	7/1/2008	6/30/2013	4/19/1988		**Approved**
WA0024490	Everett STP	11/1/2015	10/30/2020	1/1/2000		**Approved**
WA0032247	King County Brightwater WWTP	8/1/2011	7/30/2016		WA0029181	Covered
WA0032182	King County Carnation WWTP	1/1/2014	12/31/2018		WA0029181	Covered
WA0029581	King County South WWTP	8/1/2015	7/30/2020		WA0029181	Covered
WA0029181	King County West Point WWTP	2/1/2015	1/31/2020	1/1/2000		**Approved**
WA0037061	LOTT Budd Inlet Water Reclamation Facility	10/1/2011	9/29/2016	12/27/1994		**Approved**
WA0024031	Lynnwood STP	11/1/2013	10/31/2018	8/28/1984		**Approved**
WA0024368	Marine Park STP	12/1/2004	11/30/2009		WA0024350	Covered
WA0037168	Puyallup STP	12/1/2014	11/30/2019	4/29/2008		**Approved**
WA0020419	Richland POTW	8/1/2009	7/31/2014	1/1/2000		**Approved**
WA0024473	Spokane Riverside Park AWTF and CSOs	7/1/2011	6/29/2016	1/1/2000		**Approved**
WA0037087	Tacoma Central No 1	11/1/2010	10/31/2015	10/7/1994		**Approved**
WA0037214	Tacoma North No 3	7/1/2009	6/30/2014		WA0037087	Covered
WA0024350	Vancouver West STP	9/1/2001	8/1/2006	9/30/1987		**Approved**
WA0024627	Walla Walla Water Reclamation Facility	7/1/2012	6/30/2017	1/1/2011		**Approved**
WA0024023	Yakima POTW	10/1/2011	9/29/2016	1/1/2000		**Approved**

As part of this PQR, the EPA reviewed the following:

- The streamlining rule implementation status of regulatory requirements from the November 14, 2005 revisions to the pretreatment regulation (40 CFR Part 403). What is the status?

- Database entry consistency for pretreatment categories.

- Adherence to the Compliance Monitoring Strategy (CMS) program policy for frequency of regional and state reviews of POTW pretreatment programs.

- The Ecology has mercury reduction plan. Dental offices in Washington State are required to use and maintain a dental amalgam separator.

- The state has conducted fourteen (14) pretreatment compliance audit (PCA) and twelve (12) pretreatment compliance inspection (PCI) within the past five years. The state achieved a 79% inspection goal under the compliance monitoring strategy (CMS); however, Ecology Central Regional Office (CRO) has not conducted any PCA or PCI of their approved pretreatment programs for the past five years. In addition, last year, the state conducted 27 inspections out of 157 SIUs (17%) when Ecology is the control authority (CO).

Three permits reviewed for this PQR include the City of Pullman (w/o approved pretreatment program), City of Everett and City of Port Angeles. The permits contain standard pretreatment boilerplate language that meets most federal requirements. The fact sheets adequately describe the programs for each of the permits and municipalities. The Pullman permit lacks clear requirements at 40 CFR 122.44(j)(2)(ii) to provided technical evaluation of the need to calculate or reevaluate local limits following permit issuance or reissuance or procedures for addressing SIUs from extra-jurisdiction that discharge to the POTW. The permit shell does not contain a reopener clause that the permit can be reopened to require development of a local pretreatment program if determined necessary as required at 40 CFR 122.44(j)(2)(i). In addition, four state waste discharge permits to CIUs were reviewed for this PQR (Boeing Everett Modification Center, Renegade Powder Coating, U.S. Casting LLC and Magic Metals, Inc.). None of the permit contain the hazardous waste notification language to the EPA as required by 40 CFR 403.12(p)(1). On November 7, 2016, the EPA issued a new Factsheet elaborating on this notification requirement. Ecology is not meeting the requirements at 40 CFR 403.8 (f)(1)(vi) to inspect and sample each SIU annually.

A review of the state NPDES tracking database (PARIS) reveals that there are municipalities for which Ecology issued state permits to industries to discharge to POTWs consistent with the state's Waste Discharge Permit program. The EPA accessed Ecology's reliance on state-issued permit. The EPA found 13 cities had four (4) or more industries for which Ecology authorizes discharges to the POTW. An additional 54 cities had between 1 to 3 IU to POTW permits.

Table 9. City for Greater than 4 Ecology-Issued UI to POTW Permits

City	No. of State-issued Permits
Anacortes	8
Arlington	5
Bellingham	12
Camas	5
Chehalis	6
Grandview	7
Longview	8
Moses Lake	14

City	No. of State-issued Permits
Prosser	4
Sunnyside	8
Union Gap	4
Vancouver	4
Washougal	6

Program Strengths
None specified.

Findings and Recommendations

- Ecology must require all approved pretreatment programs to modify their pretreatment program to adopt all required provisions of the Streamlining Rule if they do not currently have the mandatory provisions of the Streamlining Rule. (get an assessment from Ecology before making finding.)

- Ecology must ensure that approved pretreatment programs have the hazardous waste notification language in their SUO and permits to IUs and state waste discharge permits as required by 40 CFR 403.12 (p)(1).

- The EPA recommend that Ecology develop criteria for when a municipality should develop an authorize program to reduce reliance on state issued pretreatment permits. Since Ecology does not have the resources to fully comply with the requirements at 40 CFR 403.10 (e) and 40 CFR 403.8 (f), Ecology should consider developing an action plan to delegate the pretreatment program to municipalities with IUs.

- Provide more transparent data on Ecology's website or PARIS about Ecology's Pretreatment Program e.g. criteria for requiring POTW to have an approved program, listing of approved program, etc.

4. Stormwater

The NPDES program requires storm water discharges from certain municipal separate storm sewer systems (MS4s), industrial activities, and construction sites to be permitted. Generally, EPA and NPDES-authorized states issue individual permits for medium and large MS4s and general permits for smaller MS4s, industrial activities, and construction activities; however, in Washington, Ecology issues general permits for each of these regulated storm water discharge categories.

Background
At the time of the 2016 Washington PQR, the Ecology website identifies the following storm water general permits:[21]

- Construction Stormwater General Permit

[21] Ecology, Stormwater Permits, <http://www.ecy.wa.gov/programs/wq/stormwater/> (November 25, 2016)

- Industrial Stormwater General Permit
- Phase I Municipal Stormwater Permit
- Phase II Municipal Stormwater Permit (Western Washington)
- Phase II Municipal Stormwater Permit (Eastern Washington)
- Boatyard General Permit
- Sand and Gravel General Permit
- Washington State Department of Transportation Municipal Stormwater General Permit

For this PQR, the EPA reviewed Phase I Municipal Stormwater Permit; the Western Washington Phase II Municipal Stormwater Permit; the Construction Stormwater General Permit; and the Industrial Stormwater General Permit.

Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s)

The *Phase I Municipal Stormwater Permit* (Phase I Permit) regulates the discharges from MS4s owned or operated within four counties and two cities in Western Washington. This permit was issued in mid-2012 with an effective date of August 1, 2013; the permit was modified in 2015 and 2016, and will expire on July 31, 2018.

The *Western Washington Phase II Municipal Stormwater Permit* (Phase II Permit) regulates MS4 discharges from the areas of at least 80 additional cities and portions of five counties. Ecology also issued the Phase II Permit in mid-2012, with an effective date of August 1, 2013; the Phase II Permit was subsequently modified in 2014, and will expire on July 31, 2018.

In addition to cities and counties, each permit authorizes regulated MS4 discharges from other "non-traditional" entities such as ports, park districts, school districts, colleges and universities, state institution campuses, state military campuses, irrigation districts, and diking and drainage districts that are located in a Phase I or Phase II city or county coverage area(s) and own or operate a regulated MS4. Ecology refers to such entities as "secondary permittees" in each permit, and has tailored the mandatory storm water management requirements accordingly in recognition of the type and function of the public entity.

Both MS4 permits reviewed for this PQR are written in a prescriptive manner, and each permit fully meets all applicable federal MS4 permit requirements. The narrative storm water management requirements are sufficiently clear, measurable and specific with regard to pollutant control expectations and implementation schedules. Unique watershed and/or permittee-specific requirements necessary to address waterbody specific concerns are included in the permit appendices

Program Strengths

Ecology's overall administration of its NPDES municipal storm water program is exemplary, and the MS4 permits issued by Ecology continue to meet EPA's expectations. Ecology staff provide an impressive level of compliance assistance and supporting resources to the MS4 permittees. Because these MS4s in Western Washington are interconnected and/or ultimately discharge to the same water body, Ecology explicitly coordinated the requirements of the Phase I Permit

with the requirements of the Phase II Permit to ensure the successful storm water management by requiring coordination between local jurisdictions. Both the Phase I and Phase II Permits contain similar or complementary approaches and requirements for compliance with standards, TMDL implementation, and use of the regional *Storm Water Management Manual for Western Washington*. Both permits include low impact development (LID) and flow control requirements to manage storm water and associated pollutants from new and redevelopment projects. Further, Ecology has successfully coordinated regional monitoring efforts and has included innovative requirements for watershed-based storm water planning efforts in both permits. EPA commends Ecology for successfully integrating these complex storm water management program requirements across Western Washington.

Findings and Recommendations
The Phase I and Phase II Municipal Stormwater Permits examined for this PQR are well written and fully comply with applicable NPDES regulations.

In late 2016, Ecology invited input from stakeholders, including EPA, on improvements to consider during the reissuance of the Phase I and Phase II Permits in 2018. EPA encourages Ecology to consider including provisions in the 2018 Phase I and Phase II Permits that address the following topics:

- *Watershed based planning and storm water retrofits*: EPA believes the Western Washington MS4 permits could incorporate appropriate requirements aimed at developing a comprehensive storm water retrofit strategy for the Puget Sound basin.
- *Minimum street sweeping requirements for roadways with high pollutant runoff potential*: In many areas of the country, street sweeping has proven to be an effective and low cost method to reduce pollutant discharges from roadways, and EPA encourages Ecology to continue evaluating whether minimum street sweeping in Western Washington is appropriate.
- *Minimum requirements for LID-related codes in regulated MS4 jurisdictions*: Based upon how well MS4 permittees have complied with current requirements to incorporate LID into ordinances, EPA suggests Ecology consider defining minimum expectations for LID codes.
- *Treatment requirements to sufficiently protect Puget Sound:* EPA recommends Ecology review the existing exemption for LID requirements at projects that discharge into "flow control exempt" waters of Western Washington (i.e., waters that directly discharge into large rivers and/or Puget Sound) and consider if minimum LID requirements should be required to reduce pollutant loadings to these waters.

Industrial Stormwater General Permit

Program Strengths
The Washington State Industrial Stormwater General Permit (ISGP) was issued on December 3, 2014 and became effective on January 2, 2015. It is a very solid permit. The State has thought through the issues that produce pollution at industrial sites, how to address those issues in an

enforceable structure, written a permit that is as simple as any we have seen, and then revised the permit regularly based on what they learned during the previous permit cycle.

Findings and Recommendations
The monitoring requirements seem comprehensive and good, with the exception of discharges to waters with TMDLs. The permit structure for TMDLs is fine, but Washington State does not seem to have made the connections between the permit and the TMDL development, so there is a gap in actual implementation of the TMDLs. Perhaps this will be fixed if and when Washington State revises their TMDLs.

EPA has begun requiring monitoring for industrial storm water dischargers to waters with TMDLs and found a number of unexpected sources of pollution. EPA recommends that Washington State make more active use of the TMDL-NPDES connection for general permittees, particularly in watersheds where there appear to be unknown sources or that the pollutant loadings are close to or above the agreed targets.

Construction Stormwater General Permit (CSWGP)

Program Strengths
The Construction Stormwater General Permit (CSWGP) was issued on November 18, 2015 and went into effect on January 1, 2016. Washington State's construction storm water program is robust and their permit is solid overall. The State's effort to establish and further both certification in erosion and sediment control has brought a welcome level of consistency and rigor to the construction industry's protection of waters. Similarly, the State's storm water technology evaluation program has provided valuable guidelines for how to use cationic chemicals safely and effectively to reduce turbidity. EPA adopted Washington State's work in this area for use on a national basis.

Findings and Recommendations
The permit does not describe or direct the reader to how to discover what happens if permit coverage is denied.

In the next permit, Washington State should describe or reference the process for what to do if permit coverage is denied. In addition, the next permit should include general trash in addition to construction wastes, as per 40 CFR 450.21(d)(2). General trash is a common problem at construction sites and as the regulations require including measures to deal with it, there is no reason not to do so.

I. Permit Reauthorization

Ecology has long had a process by which permit writers may consider the application data and determine that if the proposed permit would be substantially the same as the current permit. If the reissued permit would be the same as the current permit, then the current permit may be reauthorized. For the purpose of permit status, a reauthorized permit is considered a reissued permit. Ecology's process requires the reauthorized permit be in the new permit shell, but the

fact sheet documentation requirements are very abbreviated and required only a fact sheet addendum (examples as the links provided below).

EPA reviewed four permits that were reauthorized rather than reissued. In all four instances, the permit was accompanied by a fact sheet addendum. The fact sheet addendum did not include the required information about the facility, receiving water, effluent characterization, effluent limitation development, etc.

Table 10. Reauthorized NPDES Permits

NPDES No.	Permit Name	URL Permit	URL Fact Sheet Addendum
WA0020991	Sunnyside POTW	WA0020991_Sunnyside_Permit_2014-12-09.pdf	WA0020991_Sunnyside_FactsheetAddendum_2014-12-09.pdf
WA0002861	Specialty Chemical Products LLC	WA0002861_SpecialtyChemicalPermit_2015-2020.pdf	WA0002861_SpecialtyChemical_NoticeLetter_2014-12-19.pdf
WA0022365	Okanogan POTW	WA0022365Permit2015-2020.pdf	WA0022365FactsheetAddendum01272015.pdf
WA0020885	Winthrop POTW	WA0020885Permit2015-2020.pdf	WA0020885FactsheetAddendum2015-2020.pdf

Findings and Recommendations
EPA found that the current reauthorization process is not ensuring that all the data submitted with the application is evaluated and considered prior to reissuing the permit and that the permit fact sheet associated with permit reauthorization does not meet the requirements of 40 CFR 124.

The EPA recommends Ecology develop a standardized process for permit reauthorizations that meets federal requirements.

IV. REGIONAL TOPIC AREA FINDINGS

Regional topics are to be selected by the Region to evaluate permits or aspects of permits against relevant requirements. Region 10 chose to focus on other programs and state agencies that write and issue NPDES permits. Permit writers within Ecology's Water Quality Program write the majority of NPDES permits issued by Ecology's regional offices and headquarters. In addition to Water Quality Program staff, staff from Ecology's Industrial Section within the Waste 2 Resources Program write and issue permits for a select industrial sectors in the state. The EFSEC is an entirely separate state agency that issues NPDES permits for energy production facilities. Table 1. Includes information about number of permit issued by the Industrial Section and EFSEC, which manager 25 and 2 individual permits, respectively.

The purpose selecting the Industrial Section and EFSEC as regional topics was to evaluate their permitting practices against the practices established by the Water Quality Program. Of course, permit issued by the Industrial Section, being within Ecology, must follow the same regulations

as Ecology. Whereas, EFSEC, as a separate agency with its own NPDES authority and regulations, has its own permitting practices.

The EPA employed the same questionnaires used to gather information about the Water Quality Program's permit practices to learn about the Industrial Section's and EFSEC's permitting practices. The PQR team interviewed staff from both programs during the site visit.

A. Industrial Section

According to Ecology's Industrial Section webpage (http://www.ecy.wa.gov/programs/swfa/industrial/), the Section focuses on three major industries: aluminum smelters, oil refineries, and pulp and paper mills. Industrial Section permits regulate air, water, hazardous waste, and cleanup management activities at pulp and paper mills and aluminum smelters, and water, hazardous waste, and cleanup management activities at oil refineries. The section's responsibilities include environmental permitting, site inspections, and compliance issues.

In response to the Part 1 and 2 PQR questions, the EPA found that the Industrial Sections permitting processes and practices follow those of the Water Quality Programs, as discussed in Section II.A. of this report. Permit records are similarly available in the PARIS database, but hard copy records are filed with the Industrial Section. The Section consists of 8 permit writers. Administrative function, permit writer training, use of permit shells and permitting tools align with the Water Quality Program. The Section employs a SOP for permit preparation and issuance, and a checklist for reviewing DMRs and transmitting data to PARIS. Approximately 80% of the industrial section's permittees currently submit DMRs electronically.

The PQR review included 3 of the 26 NPDES permits written and managed by the Industrial Section as indicated in bold text in the table below. The permits were reviewed using the PQR checklist and findings were incorporated in the discussions in Section III of the report.

Table 11. Industrial Section NPDES Permits

Facility Name	Permit Number	Issue Date	Expiration Date
LONGVIEW FIBRE PAPER & PACKAGING, INC.	WA0000078	02/16/2016	02/28/2021
Millennium Bulk Terminals Longview, LLC	WA0000086	10/15/1990	*10/31/1995*
WEYERHAEUSER NR COMPANY LONGVIEW	WA0000124	10/15/2014	10/31/2019
GEORGIA PACIFIC CONSUMER PRODUCTS (Camas) LLC	**WA0000256**	**11/02/2015**	**11/30/2020**
EMERALD KALAMA CHEMICAL LLC	WA0000281	07/01/2009	*06/30/2014*
COLUMBIA GORGE ALUMINUM COMPANY	WA0000540	04/01/2008	*05/01/2013*
ALCOA WENATCHEE LLC	WA0000680	12/05/2014	12/31/2019
Tesoro Refining & Marketing Company LLC	**WA0000761**	**02/12/2015**	**02/29/2020**
Cosmo Specialty Fibers, Inc.	WA0000809	11/12/2015	11/30/2020

Facility Name	Permit Number	Issue Date	Expiration Date
WestRock CP, LLC	WA0000850	03/28/2014	04/30/2019
SONOCO PRODUCTS COMPANY	WA0000884	05/31/2013	06/30/2018
PORT TOWNSEND PAPER CORPORATION	WA0000922	09/16/2013	09/30/2018
US OIL & REFINING TACOMA	WA0001783	07/01/2008	*08/01/2013*
NIPPON PAPER INDUSTRIES USA CO	WA0002925	10/10/2013	10/30/2018
SHELL OIL PRODUCTS US Puget Sound Refining Company	WA0002941	06/15/2008	*07/01/2013*
INTALCO ALUMINUM CORP FERNDALE	WA0002950	01/05/2015	01/31/2020
Phillips 66 Company Ferndale Refinery	WA0002984	03/11/2014	03/31/2019
Targa Sound Terminal LLC	WA0003204	03/23/2007	*04/01/2012*
AGRIUM US INC KFO KENNEWICK FACILITY	**WA0003671**	**12/15/2015**	**12/31/2020**
BOISE WHITE PAPER LLC	WA0003697	03/13/2012	03/31/2017
AGRIUM US INC KFO HEDGES FACILITY	WA0003699	12/15/2015	12/31/2020
AGRIUM US INC KFO FINLEY FACILITY	WA0003727	12/15/2015	12/31/2020
BP CHERRY POINT REFINERY	WA0022900	02/14/2012	03/01/2017
Puget Sound Energy, Ferndale Generating Station	WA0031291	07/10/2014	07/31/2019
PACIFIC FUNCTIONAL FLUIDS LLC	WA0038679	09/08/2016	09/30/2021
PSE MINT FARM GENERATING STATION	WA0039641	06/04/2015	06/30/2020

Program Strengths

The Industrial Section NPDES permit writers follow the same guidance and permit practices as the Water Quality permit writers and participate in the Permit Writers' Workgroup. The Industrial Section has specific expertise with the industries they permit. EPA found that the Industrial Section implements a permit program consistent with Water Quality Program.

Findings and Recommendations

The review of permits indicated single instances where record did not adequately describe the pollutants of concern, where fact sheets did not describe the 303(d) status and where the frequency was less than annual for monitoring of ELG-based limits.

These findings are not addressed separately in Section V (Action Items) since the findings were part of the overall core permit review.

B. Energy Facility Site Evaluation Council (EFSEC) (Karen)

According to the agency's webpage, The Energy Facility Site Evaluation Council (EFSEC or Council) provides a "one-stop" siting process for major energy facilities in the State of

Washington. (http://www.efsec.wa.gov/default.shtm). The agency has its own rules pertaining to NDPES permitting at Chapter 463-76 WAC - Regulations for Compliance with National Pollutant Discharge Elimination System (NPDES) Program.

As a separately authorized program, EFSEC has enforcement authority for the permit it issues. Permit appeals are heard by the County Superior Court. Due to a lack of specific NPDES permitting expertise within the small agency, the agency increasing relies on and contracts with Ecology to draft permits under its authority. EFSEC issues and administers the permits under their authority. EFSEC now uses Ecology's PARIS database to house DMR data and permit records, links to facility files are provided in Table 12. EFSEC retains compliance, enforcement and inspection functions.

At this time, EFSEC manages 2 active NPDES permits. The EPA was very involved with the reissuance of the Columbia Generating Station (CGS) permit during the development process especially conditions related to the cooling water intake structure and EPA's updated 2014 CWA 316(b) rules. Therefore, the CGS permit was included in this PQR.

Table 12. EFSEC NPDES Permits

Facility Name	Permit Number	Permit Type	Issue Date	Effective Date	Expiration Date
Energy Northwest Columbia Generating Station	**WA0025151**	**Industrial NPDES IP**	**09/30/2014**	**11/01/2014**	**10/31/2019**
Grays Harbor Energy Center	WA0024961	Industrial NPDES IP	05/13/2008	05/13/2008	05/13/2013

Program Strengths
No particular strengths noted.

Findings and Recommendations
There were no findings from the permit review. EPA had significant engagement during the permit development stage. Findings are not addresses separately in Section V (Action Items) since the findings were part of the overall core permit review.

- EFSEC does not appear to have adequate NPDES permitting expertise or authorization to issue and administer NPDES permits wholly separate from Ecology. The EPA recommends continued reliance on Ecology's NPDES permitting expertise to ensure uniform implementation of NPDES permitting across the state.

V. ACTION ITEMS

This section provides a summary of the main findings of the review and provides proposed action items to improve Washington's NPDES permit programs. This list of proposed action items will serve as the basis for ongoing discussions between EPA Region 10 and Washington as

well as between EPA Region 10 and EPA HQ. These discussions should focus on eliminating program deficiencies to improve performance by enabling good quality, defensible permits issued in a timely fashion.

The proposed action items are divided into three categories to identify the priority that should be placed on each Item and facilitate discussions between Regions and states.

- **Critical Findings** (Category One) - Most Significant: Proposed action items will address a current deficiency or noncompliance with respect to a federal regulation.
- **Recommended Actions** (Category Two) - Recommended: Proposed action items will address a current deficiency with respect to EPA guidance or policy.
- **Suggested Practices** (Category Three) - Suggested: Proposed action items are listed as recommendations to increase the effectiveness of the state's or Region's NPDES permit program.

The critical findings and recommended actions proposed should be used to augment the existing list of "follow up actions" currently established as an indicator performance measure and tracked under EPA's Strategic Plan Water Quality Goals or may serve as a roadmap for modifications to the Region's program management.

A. Basic Facility Information and Permit Application

Applications were generally complete and publically available through PARIS. Proposed action items to help Ecology strengthen its NPDES permit program include the following:

- Final permits, even electronic versions in PARIS, should have some indication of appropriate signature. EPA relied on the electronic record of permit available in PARIS. However, original (hard copy) permits were signed. [40 CFR §122.22(a)(1)] (Category 3)

- Ensure complete applications are submitted at least 180 days prior to the permit expiration. 3 instances [40 CFR §122.21(c) and (d)] (Category 1)

- Ensure applications are complete, including attachments, diagrams, authorized signature, analytical data, priority pollutant scans and WET test data. 4-5 instances [40 CFR §122.21(e), §122.22 and NPDES permit application requirements] (Category 1)

- Ensure effluent data provided in the permit application include analytical detection levels sufficiently sensitive to assess compliance with applicable water quality standards. 2 instances [40 CFR §§122.21(e), 122.44(i), and Part 136, require the use of sufficiently sensitive methods for analyses conducted for NPDES permit applications and for compliance monitoring.] (Category 1)

B. Effluent Limitations – General Elements

Fact Sheet shells generally include prompts for anti-degradation, but not for anti-backsliding. Anti-backsliding analysis is not typically needed since the guidance pertains primarily to

capacity expansions. Proposed action items to help Ecology strengthen its NPDES permit program include the following:

- Ensure effluent limits are adequately justified in the administrative record including anti-backsliding, anti-degradation and compliance schedules. 4 instances. [40 CFR §122.440] (Category 1)

- Consider including a table comparing proposed effluent limits (and basis) with the limits in the previous permit in all fact sheets. (Category 3).

C. Effluent Limitations - TBELs and WQBELs

In general, the Ecology permit reviewed properly implement TBELs for municipal and non-municipal facilities. The following actions are proposed to strengthen Ecology permits in this regard.

1. TBELs for POTWs

- The basis for secondary, equivalent to secondary or BPJ limits should be clearly explained in the fact sheet to ensure the record indicates that the limits were developed considering all of the criteria established at 40 CFR 133. 3 instances (Category 2)

2. TBELs for Non-POTW Dischargers

The fact sheets for the non-POTW permits include a detailed description the respective facilities and also indicate, where relevant, the ELG categorization. These fact sheets discuss the basis for technology-based standards and the permits include limits that are consistent with the applicable effluent guidelines. Proposed action items to help Washington ECY strengthen its NPDES permit program include the following:

- Where a benchmark is included in permit, clearly explain the source and basis for the benchmark in the fact sheet, including why a limit is not needed. (Category 2).

- Ensure that the basis for any BPJ limits is explained in the relevant fact sheet. 4 instances. [40 CFR §125.3] (Category 2).

3. Water Quality-Based Effluent Limitations

In general, Ecology's permit and fact sheet shells include prompts for the incorporation of WQBELs; however, instances of inadequacy were identified. Proposed action items to help Washington strengthen its NPDES permit program include the following:

- The fact sheet should clearly identify how the pollutants of concern were identified. 5 instances. [EPA's PWM identified 5 categories of pollutants of concern for WQBEL development including pollutants with applicable TBELs, pollutants with a WLA from a TMDL, pollutants identified as needing WQBELs in the previous permit, pollutants identified as present in the effluent through monitoring, pollutants otherwise expected to be present in the discharge.] (Category 2).

- Ensure fact sheets include reasonable potential analysis for all pollutants of concern with sufficient detail including assumptions about background data for the receiving water. 5 instances [EPA PWM] (Category 2)

- Ensure permit limits are included for all pollutants for which there is a finding of reasonable potential. 3 instances and uncertain where permits were reauthorized [§122.44(d)(iii)] (Category 1)

- Ensure permits include both long-term and short-term effluent limits for all final WQBELs. 4 instances [§122.45(d)] (Category 1)

D. Monitoring and Reporting

Ecology's PWM provides comprehensive guidance for the incorporate of monitoring and reporting requirements into permits. Proposed action items to help Washington strengthen its NPDES permit program include the following:

- Ensure the monitoring locations are clearly identified, primarily industrial permits. 3 instances [The NPDES regulations do not prescribe exact monitoring locations; rather, the permit writer is responsible for determining the most appropriate monitoring location(s) and indicating the location(s) in the permit. Ultimately, the permittee is responsible for providing a safe and accessible sampling point that is representative of the discharge [§122.41(j)(1)] (Category 2)

E. Standard and Special Conditions

EPA standard conditions (40 CFR §122.41) are applicable to all permits. Ecology must administer these in conformance with federal standard conditions without "omitting or modifying any provisions to impose more stringent requirements" (§123.25(a)). Although most of the standard conditions are include in Ecology's "general conditions" of the permit shell, some are found under "special conditions". Proposed action items to help Washington strengthen its NPDES permit program include the following:

- EPA staff noted that compliance with the standard conditions for anticipated noncompliance (§122.41(l)(2)) and bypass (§122.41(m)) were difficult to interpret in the core permit review. Non-identical wording and phrasing from federal language and wrapping standard conditions into the permit body sections made cross examination difficult. EPA staff had some uncertainty on whether the above provisions were consistent with federal regulations. 5 instances noted, but not all reviewers reviewed standard conditions. (Category 3)

F. Administrative Process (including public notice)

Ecology has a very strong administrative process. Proposed action items to help Washington strengthen its NPDES permit program include the following:

- The EPA suggests that the beginning and end date on public notices be included in the public notices online version. Some notices only include the publication day, but not the end date. (Category 3)

G. Administrative Process and Documentation

- None

H. National Topic Areas

Proposed actions items for core topic areas are provided below.

1. Nutrients

Nutrients are not consistently addressed in permits. Proposed action items to help Washington strengthen its NPDES permit program include the following:

- Conduct reasonable potential analysis for nutrients if the type of facility is known to have discharges that contain nitrogen or phosphorous, or the receiving waters are known to have nutrient impairments. (Category 1)

- Continue to include monitoring requirements for phosphorous and nitrogen in permits for such facilities where the receiving waters are known to have nutrient impairments. Ecology is to be commended for including the monitoring requirements for nitrogen and phosphorous in their permits. (Category 3)

2. Pesticides

- None

3. Pretreatment

Proposed action items to help Washington strengthen its NPDES permit program include the following:

- Ecology must require all approved pretreatment programs to modify their pretreatment program to adopt all required provisions of the Streamlining Rule if they do not currently have the mandatory provisions of the Streamlining Rule. (Category 1)

- Ecology must ensure that approved pretreatment programs have the hazardous waste notification language in their SUO and permits to IUs and state waste discharge permits as required by 40 CFR 403.12 (p)(1). (Category 1)

- The EPA recommend that Ecology develop criteria for when a municipality should develop an authorize program to reduce reliance on state issued pretreatment permits. Since Ecology does not have the resources to fully comply with the requirements at 40 CFR 403.10 (e) and 40 CFR 403.8 (f), Ecology should consider developing an action plan to delegate the pretreatment program to municipalities with IUs. (Category 2)

4. Stormwater

Proposed action items to help Washington strengthen its NPDES permit program include the following:

- The Industrial Stormwater General Permit does not sufficiently address discharge to TMDL waters and TMDL development should address stormwater.
- The Construction Stormwater General Permit does not describe a process for permit coverage denials.

I. Permit Reauthorization Process

Ecology's permit reauthorization may circumvent federally required steps for permit reissuance. Proposed action items to help Washington strengthen its NPDES permit program include the following:

- EPA found that the current reauthorization process is not ensuring that all the data submitted with the application is evaluated and considered in reissuing the permit, and that the permit fact sheet association with permit reauthorization does not meet the requirement of 40 CFR 124. (Category 1)

J. Regional Topic Areas

Proposed action items for special focus areas are provided below.

1. Industrial Section

No separate action items. Incorporated into core permit review section.

2. Energy Facility Site Evaluation Council (EFSEC)

Proposed action items to help EFSEC strengthen its NPDES permit program include the following:

- An MOU should be provided or established to ensure that EFSEC has access to Ecology's NPDES resources in order to sustain an NPDES permit program. (Category 1)

Appendix A: Resources and References

EPA Websites	URL
EPA Permit Quality Review Website	http://water.epa.gov/polwaste/npdes/basics/NPDES-Permit-Quality-Review.cfm
EPA Permit Writers' Manual	http://www.epa.gov/npdes/pubs/Permit Writer's Manual_2010.pdf
Code of Federal Regulations (40 CFR)	http://www.ecfr.gov/
EPA Administered Permit Programs: The National Pollutant Discharge Elimination System	40 CFR 122
EPA's Approve State TMDLs (AskWATERS)	http://iaspub.epa.gov/apex/waters/f?p=ASKWATERS:MAIN_MENU
State Webpages	**URL**
Washington Administrative Rules (Chapter 173 WAC)	http://apps.leg.wa.gov/WAC/default.aspx?cite=173
Washington Water Quality Standards (WAC 172-201A)	http://apps.leg.wa.gov/WAC/default.aspx?cite=173-201A
Permit Guidance	http://www.ecy.wa.gov/programs/wq/permits/guidance.html
Permit Writer's Manual	https://fortress.wa.gov/ecy/publications/documents/92109.pdf
RPA Tool – PermitCalc	PermitCalc Workbook
Permit Document Search	http://www.ecy.wa.gov/programs/wq/permits/paris/paris.html
References	**URL**
EPA's Permit Writers' Manual	http://water.epa.gov/polwaste/npdes/basics/upload/Permit Writer's Manual_2010.pdf
Technical Support Document	http://www.epa.gov/npdes/pubs/owm0264.pdf

Note: URL's active at the time of report issuance. URL's may change or become inactive over time.

Appendix B: Selected Permit Documents

PQR ID	NPDES No.	Permit Name (URL to Facility Summary)	URL Permit	URL Fact Sheet
1	WA0000256	GEORGIA PACIFIC CONSUMER PRODUCTS (Camas) LLC	WA0000256_GeorgiaPacificCamas_Permit2015_11.pdf	WA0000256_GeorgiaPacificCamas_FactSheet2015_11.pdf
2	WA0000761	Tesoro Refining & Marketing Company LLC	WA0000761_Tesoro_NPDESPermit_2015_02.pdf	WA0000761_Tesoro_FactSheet_2013_05.pdf
3	WA0001091	GEORGIA PACIFIC WEST BELLINGHAM	WA0001091_PortOfBellinghamGPWest_FinalPermit_2014-12-17.pdf	WA0001091_PortOf Bellingham GPWest_FinalFactSheet_2014-12-17.pdf
4	WA0020991	Sunnyside POTW	WA0020991_Sunnyside_Permit_2014-12-09.pdf	WA0020991_Sunnyside_FactsheetAddendum_2014-12-09.pdf
5	WA0044652	PULLMAN WWTP	WA0044652_Pullman_WWTP_Permit_2014-06-01.pdf	WA0044652_Pullman_WWTP_Fact_Sheet_2014-06-01.pdf
6	WA0024490	EVERETT STP	WA0024490_EverettWPCF_FinalPermit_2015-09-30.pdf	WA0024490_EverettWPCF_FinalFactSheet_2015-09-30.pdf
7	WA0023973	PORT ANGELES STP	Port Angeles Wastewater Treatment Plant Final Permit - 2-1-16.pdf	Port Angeles Wastewater Treatment Plant Fact Sheet - 2-1-16.pdf
8	WA0002861	Specialty Chemical Products LLC	WA0002861_SpecialtyChemicalPermit_2015-2020.pdf	WA0002861_SpecialtyChemical_NoticeLetter_2014-12-19.pdf
9	WA0045527	BOISE CASCADE WOOD PRODUCTS, LLC. - ARDEN LUMBER	WA0045527_Boise_Cascade_Wood_Products_LLC_Arden_Lumber_Permit_2015-05-01.pdf	WA0045527_Boise_Cascade_Wood_Products_LLC_Arden_Lumber_Fact_Sheet_2015-05-01.pdf
10	WA0003671	AGRIUM US INC KFO KENNEWICK FACILITY	WA0003671_agriumKennewick_Permit_2015_12.pdf	WA0044652_Pullman_WWTP_Fact_Sheet_2014-06-01.pdf
11	WA0002615	Vigor Shipyards Inc	WA0002615_VigorShipyards_FinalPermit_2015-07-09.pdf	WA0002615_VigorShipyards_FinalFactSheet_2015-07-09.pdf
12	WA0000728	Phillips 66 Company Tacoma Terminal North	Phillips66TacomaNorth_permitMod.pdf	Phillips66TacomaNorthFS.pdf
13	WA0022365	Okanogan POTW	WA0022365Permit2015-2020.pdf	WA0022365FactsheetAddendum01272015.pdf
14	WA0020885	Winthrop POTW	WA0020885Permit2015-2020.pdf	WA0020885FactsheetAddendum2015-2020.pdf
15	WA0044792	OAKESDALE STP	WA0044792_Oakesdale_STP_Permit_2015-04-01.pdf	WA0044792_Oakesdale_STP_Fact_Sheet_2015-04-01.pdf

PQR ID	NPDES No.	Permit Name (URL to Facility Summary)	URL Permit	URL Fact Sheet
16	WA0044687	ROSALIA STP	WA0044687_Rosalia_STP_Permit_2016-03-01.pdf	WA0044687_Rosalia_STP_Fact_Sheet_2016-03-01.pdf
17	WA0022454	FERNDALE STP	WA0022454_FerndaleWWTP_FinalPermit_2014-07-15.pdf	WA0022454_FerndaleWWTP_FinalFactSheet_2014-07-15.pdf
18	WA0032077	Kitsap County Kingston WWTP	WA0032077_KingstonWWTP_FINALPermit_2015-09-30.pdf	WA0032077_KingstonWWTP_FINALFactSheet_2015-09-30.pdf
19	WA0020249	CAMAS STP	Camas Wastewater Treatment Plant Final Permit - 10-1-15.pdf	Camas Wastewater Treatment Plant Final Fact Sheet - 10-1-15.pdf
20	WA0037052	PORT TOWNSEND STP	Port Townsend Wastewater Treatment Plant Final Permit - 12-1-15.pdf	Port Townsend Wastewater Treatment Plant Final Fact Sheet - 12-1-15.pdf
21	WA0025151	Energy Northwest Columbia Generating Station	CGS-NPDESPermit-Final-ElectronicSignature.pdf	CGS-NPDESFactSheet-Final.pdf

Appendix C: Summary Core Permit Review Checklist

This table summarizes the response for the core permits reviewed using the PQR checklist. Yellow highlight indicates area of potential finding. Green highlight indicates positive area. The checklist covers all regulatorily required permit elements, but may not be indicative of permit quality especially as relates to the technical analysis provided in the fact sheet.

Sec. No.	Question	No	Yes	Maybe	NA
I.	Draft Permit or Pre-State Visit Review Information				
II.	Basic Permit and Facility Information				
A. Basic Permit Information					
	1. Does the permit contain appropriate issuance, effective, and expiration dates and authorized signatures?		21		
	a. What was the permit issuance date?				
	b. What was the permit effective date?				
	c. What was the permit expiration date?				
	d. Was the permit effective 5 years or less?		20		
	2. Did the permit contain specific authorization-to-discharge information (from where, to where, by whom)?		21		
B. Basic Facility and Receiving Water Information					
	1. Did the record or permit describe the physical location of the facility (e.g., address, lat./long)?		21		
	2. Did the record include a description of the type of activities and wastewater treatment process at the facility?		21		
	3. Were all outfalls that the record indicated were present at the facility identified and authorized in the permit (including stormwater and/or combined sewer overflow outfalls, if appropriate)?		20		
	a. Did the permit identify the physical location of outfalls?		21		
	4. Did the record clearly identify the name of the receiving water(s) (e.g. stream segment, location in receiving water)?		21		
	5. Did the record clearly identify the location within the receiving water(s) where the discharge(s) occur?	1	20		
III.	Permit Application				
	1. Was the current, appropriate application submitted?		21		
	2. Was the complete permit application submitted at least 180 days prior to permit expiration?	3	14	3	
	a. Date complete application submitted?				
	b. Date of previous permit expiration?				
	3. Was the permit application complete (including all attachments, diagrams, etc.) and signed?	5	15	1	
	4. Did the permit application provide all required analytical data?	4	17		
	a. New Dischargers: (Form 2A or 2D Requirements)	2			19
	b. Existing Dischargers:		10		
-	POTW: Have 3 pollutant scans been performed within the existing permit term?	5	7		9
	Did the permit application provide the results of at least 4 quarterly WET tests/4 years of annual data?	3	5	1	12
-	Non-POTW: Based on the industrial category, have the correct Form 2C analytical requirements been met?		6		12

Sec. No.	Question	No	Yes	Maybe	NA
	5. For effluent data provided in the permit application, were analytical detection levels sufficiently sensitive to assess compliance with applicable water quality standards?	2	9	2	2
IV.	Effluent Limitations				
A. General Elements					
	1. Did the fact sheet describe the basis (technology or water quality) for each of the final effluent limits?	3	18		
	a. Did the record indicate that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected?	2	12		6
	2. Were all limits at least as stringent as those in the previous permit? a. If No, specify	6	13		1
	b. If No, did the record discuss whether "anti-backsliding" provisions were met? Specify.	4	5		12
	3. Did permit limits restrict pollutant loadings to levels at or below those in the previous permit?	4	17		
	a. If No, did the record indicate that an "antidegradation" review was performed in accordance with the state's approved antidegradation policy? Specify:	1	2	1	17
	4. The state did Not grant this facility a water quality standards variance?	2	19		
	a. If No, did the state follow all the required procedures for granting the variance?				21
	5. The permit did not require a compliance schedule?	5	16		
	a. If No, what was the final compliance date?	1	1		18
	b. If No, was the schedule consistent with 40 CFR 122.47 & EPA's May 2007 memo?	1		1	18
B. Technology-Based Effluent Limits					
	POTWs: (For Non-POTWs skip to question 6)				
	1. Did the permit contain numeric limits for ALL of the following: BOD_5 (or an alternative; e.g., $CBOD_5$, COD, TOC), TSS, and pH?		12		8
	2. Were technology-based permit limits expressed in appropriate units of measure (i.e., concentration, mass, SU)?		12		8
	3. Were permit limits for BOD_5 and TSS expressed in terms of both 30-day (monthly) average and 7-day (weekly) average limits?		12		8
	4. Were concentration limitations in the permit at least as stringent as the secondary treatment requirements (30 mg/l BOD_5 and TSS for a 30-day (monthly) average and 45 mg/l BOD_5 and TSS for a 7-day (weekly) average)?	4	8		8
	a. If No, did the record provide a detailed justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?		3	1	16
	Specify:				
	5. Were 85 percent removal requirements for BOD_5 (or BOD_5 alternative) and TSS included?	4	8		8
	a. If No, did the record indicate the application of more stringent requirements than 85% removal (such as WQBELs] or other requirements)? Or an alternative consistent with 40 CFR 133.103	1	4		15

Sec. No.	Question	No	Yes	Maybe	NA
	(e.g. waste stabilization pond, trickling filter, etc.) had been approved?				
	Specify:				
	Non-POTWs: (For POTWs skip to Section IV.C)				
	6. Was the facility subject to a national effluent limitations guideline (ELG)?	4	5		1
	a. If Yes, what categories and subcategories applied?		2		5
	i. new source existing source?				
	ii. Did the record explain how the categorization and performance levels (BPT, BCT, BAT, NSPS) were determined?		5		5
	iii. Did the record adequately document the calculations used to develop ELG-based effluent limits?		4		6
	iv. Were final limits as stringent as required by applicable effluent limitations guidelines?		5		5
	If No, list parameters:				2
	Specify the basis in the record:				
	b. If the facility was not subject to an ELG (or if the facility included processes or waste streams that were not subject to ELG), did the permit include technology-based limitations based on best professional judgment (BPJ) for all conventional, nonconventional, and toxic pollutants in the discharge?	4	4		2
	If yes, specify which were based on BPJ:				2
	List limits that were not based on BPJ:				3
	c. For limits developed based on BPJ, did the record indicate that the limits were developed considering all of the criteria established at 40 CFR 125.3(d)?	3		1	5
	d. For limits developed based on BPJ, did the record adequately document the calculations used to develop BPJ technology-based effluent limits?		1		8
	7. Were technology-based permit limits expressed in appropriate units of measure (i.e., concentration, mass, SU)?		8		2
	8. Were all technology-based limits expressed in terms of both maximum daily and monthly average limits?	2	4		4
	9. For all limits that were based on production or flow, did the record indicate that the calculations were based on a "reasonable measure of actual production" for the facility (not design)?		4		6
	10. If the permit contained "tiered" limits that reflected projected increases in production or flow, did the permit require the facility to notify the permitting authority when alternate levels of production or flow were attained?				9
C. Water Quality-Based Effluent Limits					
	1. Did the record describe how "pollutants of concern" were selected for the limit development process?	5	11	2	
	2. Did the record describe the designated uses of the receiving water(s) to which the facility discharges (e.g., contact recreation, aquatic life use)?	2	19		
	3. Did the fact sheet contain a description of the 303(d) status of the receiving water(s)?	4	16		1
	a. If Yes, was the receiving water(s) impaired for any uses?	3	13	1	4

Sec. No.	Question	No	Yes	Maybe	NA
	b. If Yes, list impairments:				5
	4. If the receiving water was impaired (i.e., on 303(d) list), did the facility discharge pollutants that cause or contribute to the impairment?	6	11		4
	5. Had a TMDL been completed for the pollutant(s) causing the impairment(s)?	9	8		4
	a. If yes, did the fact sheet indicate that the TMDL was implemented in the permit?		5		16
	6. If a TMDL had been completed for the receiving water, did the facility discharge pollutants that caused or contributed to the impairment?	4	5		12
	a. If yes, did the permit include WQBELs that were consistent with the assumptions and requirements of the WLA portion of the TMDL(s)?	1	5		15
	7. Had the state made a finding that the discharge did or did not have a reasonable potential to cause, or contribute to an excursion above the applicable numeric water quality criterion for each pollutant of concern at each outfall?	5	14	2	
	8. Did the record include reasonable potential analysis documentation (e.g. summary tables, spreadsheets)?	6	13	1	1
	a. If No, list all parameters of concern for which RP was not identified in record.				16
	9. Did the record indicate that background data for the receiving water was used in limit development calculations?	9	11		1
	a. If Yes, for which parameters?		3		9
	b. If No, what was the default used in calculations?	1	1		13
	10. Where dilution or a mixing zone was provided, did the record describe how the dilution allowance was determined?	2	13		6
	11. Where dilution or a mixing zone was provided, did the analysis account for contributions from other sources (e.g., ambient or background concentration)?	6	5	3	7
	12. Based on analyses conducted, did the permit contain numeric effluent limits for all pollutants that had a reasonable potential to cause or contribute to an excursion of applicable WQ standards?	4	11	2	3
	a. If No, identify all pollutants for which there was RP but No final limit:			1	17
	13. For all final WQBELs, did the permit contain both long-term (e.g., average monthly) and short-term (e.g., maximum daily, instantaneous) effluent limits?	4	11		6
	14. Were all WQBELS expressed in appropriate units of measure (i.e., concentration, mass, SU)?	2	14		5
	15. Did the record include limit development calculations for each pollutant limited in the permit?	5	9	3	4
	a. If No, which pollutants did not have documentation of calculations?				5
	b. Were all final WQBELs in the permit consistent with the justification and documentation provided in the record?	2	13	2	4

Sec. No.	Question	No	Yes	Maybe	NA
	16. Did the record indicate the state considered its applicable narrative water quality criteria in developing water quality-based permit conditions?	4	17		
	17. Was RP found for WET?	17	2		2
	a. If Yes, where RP was determined, were WQBELs included in the permit?		1		19
V.	Monitoring and Reporting Requirements				
	1. Did the permit require at least annual monitoring for all limited parameters?		21		
	2. Were monitoring location(s) and frequency(s) identified?	3	18		
	3. Were the type, frequency, and location of monitoring adequate to assess compliance with each effluent limitation?	1	20		
	4. Did the permit require testing for Whole Effluent Toxicity?	12	9		
	a. Type of testing: Acute Chronic				1
	5. Did the permit require use of a sufficiently sensitive 40 CFR Part 136 method capable of quantifying the pollutant at a concentration equal to or less than the limit?	1	19	1	
	6. POTWs:				
	a. Did the permit require influent monitoring for BOD_5 (or alternative) and TSS?		12		9
	b. Did the permit require monitoring for CSO/SSOs or blending?	7	2	1	11
	If Yes, specify				2
	7. Non-POTWs: For monitoring of ELG-based limits, if the monitoring frequency was less frequent than annual, did the record indicate that the facility applied for and was granted a monitoring waiver?	2			16
	a. If Yes, did the permit specifically incorporate this waiver?				16
VI.	Standard Conditions				
	1. Did the permit contain all 40 CFR 122.41 standard conditions?		7	1	
	(a) Duty to comply		15		
	(b) Duty to reapply		15		
	(c) Need to halt or reduce activity not a defense	2	10	1	2
	(d) Duty to mitigate	5	10		
	(e) Proper operation & maintenance	1	14		
	(f) Permit actions		15		
	(g) Property rights		15		
	(h) Duty to provide information		15		
	(i) Inspections and entry		15		
	(j) Monitoring and records		14	1	
	(k) Signatory requirement		15		
	(l) Reporting requirements		6		
	(1) Planned change		15		
	(2) Anticipated noncompliance	1	1	12	
	(3) Transfers		15		
	(4) Monitoring reports		15		
	(5) Compliance schedules		15		
	(6) Twenty-four hour reporting		15		
	(7) Other non-compliance		15		
	(8) Other information		14		

Sec. No.	Question	No	Yes	Maybe	NA
	(m) Bypass	1	8	6	
	(n) Upset		15		
	2. Was the language of all § 122.41 standard conditions at least as stringent as the federal regulations? a. If no, specify:	3	3	2	
	3. Did the permit or fact sheet indicate that certain bypasses would be "approved" (i.e., no enforcement will be taken when system specific conditions i.e., wet weather flows exceed specified levels, are met)?[1]	11	5	1	
	a. If Yes, did the record for the permit provide an adequate demonstration that there were "no feasible alternatives" to the bypass under the conditions when bypass is approved?	1	4	1	11
	4. POTWs: Did the permit contain the additional standard condition for POTWs regarding notification of new introduction of pollutants and new industrial users?		9		8
	5. Non-POTWs: Did the permit contain the additional standard condition for nonmunicipals- regarding notification levels?		8		9
VII.	Administrative Record				
A. Technical Requirements					
	1. If the draft permit was reviewed, was the file copy of the permit the same as the draft version?	6	2		8
	a. Did the file indicate that the permit was revised between the draft and final permit?	2	8		4
	b. If Yes, specify:				1
	2. Subsequent to issuance, had the permit been modified?	12	5		
	a. If Yes, was the modification processed in accordance with §§122.62 & 122.63?		5		11
	3. Did the file include supporting documentation referenced in the fact sheet that was used to develop permit limits and conditions?	1	13	1	2
B. Public Notice					
	1. Did the record include documentation of public notice in accordance with §124.10?		20		
	2. Did the public notice include content requirements at 124.10(d)?		16	4	
	a. Where a 316(a) variance was requested, did the public notice include contents required at 124.57?	6			15
	3. Did the record include all comments received, if any?		17		4
	4. Did the record include a written response to all significant comments?		15		6
	5. If a public hearing was requested, was one held?	4	1		14
	6. If a public hearing was held, was the recording or transcript part of the administrative record?	1	1		18
VIII.	Other Program Areas				
	1. Did the permit require development and implementation of a best management practices (BMP) plan or site-specific BMPs?	10	8		
	a. If Yes, did the permit adequately incorporate and require compliance with the BMPs?	1	8		8
	2. Did any of the following program area requirements apply?		5		
	Stormwater	8	8		
	Ambient sampling	12	5		1

Sec. No.	Question	No	Yes	Maybe	NA
	Mixing studies	13			2
	Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE)	12	1		1
	Bioassessment	11	3		1
	316(a) variances	14			2
	316(b)	11	3		2
	Concentrated Animal Feeding Operation (CAFO)	15			
	Offsets/trading	15			
	POTWs:				1
	Pretreatment	1	7		8
	Biosolids	4	4		8
	Combined Sewer Overflows (CSOs)	5	2		9
	Sanitary Sewer Overflows (SSOs)	7	1		8
	301(h) variances	8			8
	Other (specify)		1		1

Appendix D: Summary of PQR Action Items

Sorted by category and report section.

***(estimate based on compilation of PQR checklist questions)**

Report Section	Report Section Heading	Action Items	Instances	Regulation	Category
V.A.	Basic Facility Information and Application	Ensure complete applications are submitted at least 180 days prior to the permit expiration.	3	40 CFR §122.21(c) and (d)	1
V.A.	Basic Facility Information and Application	Ensure applications are complete include attachments, diagrams, authorized signature, analytical data, priority pollutant scans and WET test data.	5	40 CFR §122.21(e), §122.22	1
V.A.	Basic Facility Information and Application	Ensure effluent data provided in the permit application, were analytical detection levels sufficiently sensitive to assess compliance with applicable water quality standards.	2	40 CFR §§122.21(e), 122.44(i), and Part 136, require the use of sufficiently sensitive methods.	1
V.B.	Effluent Limitations Documentation	Ensure effluent limits are adequately justified in the administrative record including antibacksliding, antidegradation and compliance schedules.	4	§122.44	1
V.C.	Water Quality-Based Effluent Limitations	Ensure permits include both long-term and short-term effluent limits for all final WQBELs.	4	§122.45(d)	1
V.H.3	Pretreatment	Ecology must require all approved pretreatment programs to modify their pretreatment program to adopt all required provisions of the Streamlining Rule if they do not currently have the mandatory provisions of the Streamlining Rule.			1
V.H.3	Pretreatment	Ecology must ensure that approved pretreatment programs have the hazardous waste notification language in their SUO and permits to IUs and state waste discharge permits as required by 40 CFR 403.12 (p)(1).		40 CFR 403.12 (p)(1)	1
V.I	Reauthorization	EPA found that the current reauthorization process is not ensuring that all the data submitted with the application is evaluate and consider in reissuing the permit, and that the permit fact sheet association with permit reauthorization does not meet the requirement of 40 CFR 124.	4	§124	1

Report Section	Report Section Heading	Action Items	Instances	Regulation	Category
VI.B	EFSEC	An MOU should be provided or established to ensure that EFSEC has access to Ecology's NPDES resources in order to sustain an NPDES permit program.	NA		1
V.C.	Technology-based Effluent Limitations	Provide justification for secondary, equivalent to secondary or BPJ limits which should be clearly explained in the fact sheet to ensure the record indicates that the limits were developed considering all of the criteria.	1	§133	2
V.C.	Technology-based Effluent Limitations	Where a benchmark is included in permit, clearly explain the source and basis for the benchmark in the fact sheet, including why a limit is not needed.			2
V.C.	Technology-based Effluent Limitations	Ensure that the basis for any BPJ limits is explained in the relevant fact sheet.	4	§125.3	2
V.C.	Water Quality-Based Effluent Limitations	The fact sheet should clearly identify how the pollutant of concern were identified.	5	EPA's PWM identified 5 categories of pollutants of concern for WQBEL development.	2
V.C.	Water Quality-Based Effluent Limitations	Ensure fact sheets include reasonable potential analysis for all pollutants of concern with sufficient detail including assumptions about background data for the receiving water.	5	EPA PWM	2
V.C.	Water Quality-Based Effluent Limitations	Ensure permit limits are included for all pollutants for which there is a finding of reasonable potential.	3	§122.44(d)(iii)	2
V.D.	Monitoring and Reporting	Ensure the monitoring locations are clearly identified especially in industrial permits.	3	§122.41(j)(1)	2

Report Section	Report Section Heading	Action Items	Instances	Regulation	Category
V.H.3	Pretreatment	The EPA recommend that Ecology develop criteria for when a municipality should develop an authorize program to reduce reliance on state issued pretreatment permits. Since Ecology does not have the resources to fully comply with the requirements at 40 CFR 403.10 (e) and 40 CFR 403.8 (f), Ecology should consider developing an action plan to delegate the pretreatment program to municipalities with IUs.			2
V.H.4	Stormwater (Construction)	The permit does not describe a process for permit coverage denials.			2
V.H.4	Stormwater (Industrial)	The Industrial Stormwater General Permit does not adequately address discharge to TMDL waters and TMDL development should address stormwater.			2
V.A.	Basic Facility Information and Application	Final permits, even electronic versions in PARIS, should have some indication of appropriate signature. EPA relied on the electronic record of permit available in PARIS. However, original (hard copy) permits where signed.	all	§122.22(a)(1)	3
V.B.	Effluent Limitations Documentation	Consider including a table comparing proposed effluent limits (and basis) with the limits in the previous permit in all fact sheets.	Tentative		3
V.E.	Standard and Special Conditions	Ensure federal regulations are met and standardize the general conditions section the permit shell.	3	§122.41(l)(2)) and bypass (§122.41(m)	3
V.F.	Administrative Process (including public notice)	The EPA suggests that the beginning and end date on public notices be included in the public notices online version. Some notices only include the publication day, but not the end date.	Most		3
V.H.1	Nutrients	Conduct reasonable potential analysis for nutrients if the type of facility is known to have discharges that contain nitrogen or phosphorous or the receiving waters are known to have nutrient impairments.			3

Report Section	Report Section Heading	Action Items	Instances	Regulation	Category
V.H.1	Nutrients	Continue to include monitoring requirements for phosphorous and nitrogen in permits for such facilities where the receiving waters are known to have nutrient impairments. Ecology is to be commended for including the monitoring requirements for nitrogen and phosphorous in their permits.		§122.44(l)(1)(iii)	3
V.H.4	Pretreatment	Provide more transparent data on Ecology's website or PARIS about Ecology's Pretreatment Program e.g. criteria for requiring POTW to have an approved program, listing of approved program, etc.			3
		Category 1			9
		Category 2			10
		Category 3			7
		Total			26

Appendix E: Summary of Ecology Comment on Draft PQR Report

Significant comments and/or statement from Ecology regarding draft report will be added prior to issuance of final report.